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NEWS 4	AUG 24	ENCOMPLIT/ENCOMPLIT2 reloaded and enhanced
NEWS 5	AUG 24	CA/CAplus enhanced with legal status information for U.S. patents
NEWS 6	SEP 09	50 Millionth Unique Chemical Substance Recorded in CAS REGISTRY
NEWS 7	SEP 11	WPIDS, WPINDEX, and WPIX now include Japanese FTERM thesaurus
NEWS 8	OCT 21	Derwent World Patents Index Coverage of Indian and Taiwanese Content Expanded
NEWS 9	OCT 21	Derwent World Patents Index enhanced with human translated claims for Chinese Applications and Utility Models
NEWS 10	NOV 23	Addition of SCAN format to selected STN databases
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NEWS 12	DEC 01	FRFULL Content and Search Enhancements
NEWS 13	DEC 01	DGENE, USGENE, and PCTGEN: new percent identity feature for sorting BLAST answer sets
NEWS 14	DEC 02	Derwent World Patent Index: Japanese FI-TERM thesaurus added
NEWS 15	DEC 02	PCTGEN enhanced with patent family and legal status display data from INPADOCDB
NEWS 16	DEC 02	USGENE: Enhanced coverage of bibliographic and sequence information
NEWS 17	DEC 21	New Indicator Identifies Multiple Basic Patent Records Containing Equivalent Chemical Indexing in CA/CAplus
NEWS 18	JAN 12	Match STN Content and Features to Your Information Needs, Quickly and Conveniently
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NEWS 21	FEB 16	Derwent World Patents Index (DWPI) Revises Indexing of Author Abstracts
NEWS 22	FEB 16	New FASTA Display Formats Added to USGENE and PCTGEN
NEWS 23	FEB 16	INPADOCDB and INPAFAMDB Enriched with New Content and Features
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S/N 10/568,456

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=> set abbr on perm
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=> file uspatall caplus japio
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                                                         ENTRY    SESSION
FULL ESTIMATED COST                                       0.22       0.22

FILE 'USPATFULL' ENTERED AT 11:05:30 ON 01 MAR 2010
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COPYRIGHT (C) 2010 Japanese Patent Office (JPO)- JAPIO

=> s elastomer?(8a)(block#(4a)copolymer#)
L1       17401 ELASTOMER?(8A)(BLOCK#(4A) COPOLYMER#)

=> s (syndiotactic?(6a)(vinyl(1a)arom? or styren?))(8a)block#
L2         380 (SYNDIOTACTIC?(6A)(VINYL(1A) AROM? OR STYREN?))(8A) BLOCK#

=> s l1 and l2
L3          78 L1 AND L2

=> s (dien### or butadien? or isopren?)(s)block#
L4       72176 (DIEN### OR BUTADIEN? OR ISOPREN?)(S) BLOCK#
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=> s l3 and l4
L5          77 L3 AND L4

=> s block#(s)(cis####(1a)(content or structure# or linkage# or microstructure#))
L6         355 BLOCK#(S)(CIS####(1A)(CONTENT OR STRUCTURE# OR LINKAGE# OR MICRO
               STRUCTURE#))

=> s l5 and l6
L7           0 L5 AND L6

=> s block#(s)((butadien? or isopren?)(4a)polymer#)
L8       11112 BLOCK#(S)((BUTADIEN? OR ISOPREN?)(4A) POLYMER#)

=> s l5 and l8
L9          53 L5 AND L8

=> d l9 1-25 ibib abs

L9   ANSWER 1 OF 53  USPATFULL on STN
ACCESSION NUMBER:       2009:361240  USPATFULL
TITLE:                  MULTILAYER OPTICAL FILMS HAVING ONE OR MORE REFLECTION
                        BANDS
INVENTOR(S):            Weber, Michael F., Shoreview, MN, UNITED STATES
                        Nevitt, Timothy J., Red Wing, MN, UNITED STATES
                        Ouderkirk, Andrew J., Singapore, SINGAPORE
                        Wheatley, John A., Lake Elmo, MN, UNITED STATES
                        Jonza, James M., Woodbury, MN, UNITED STATES
                        Liu, Yao Qi, Shoreview, MN, UNITED STATES
                        Ruff, Andrew T., UNITED STATES
                        Boettcher, Jeffrey A., Woodbury, MN, UNITED STATES
PATENT ASSIGNEE(S):     3M Innovative Properties Company (U.S. corporation)

                             NUMBER       KIND    DATE
                        ---------------- ------ --------
PATENT INFORMATION:     US 20090323180     A1   20091231
APPLICATION INFO.:      US 2009-433364     A1   20090430  (12)
RELATED APPLN. INFO.:   Continuation of Ser. No. US 2006-561822, filed on 20
                        Nov 2006, ABANDONED Continuation of Ser. No. US
                        2004-952335, filed on 27 Sep 2004, Pat. No. US 7138173
                        Continuation of Ser. No. US 2002-188175, filed on 1 Jul
                        2002, Pat. No. US 6797366 Continuation of Ser. No. US
                        1998-6591, filed on 13 Jan 1998, Pat. No. US 6531230
DOCUMENT TYPE:          Utility
FILE SEGMENT:           APPLICATION
LEGAL REPRESENTATIVE:   3M INNOVATIVE PROPERTIES COMPANY, PO BOX 33427, ST.
                        PAUL, MN, 55133-3427, US
NUMBER OF CLAIMS:       13
EXEMPLARY CLAIM:        1
NUMBER OF DRAWINGS:     28 Drawing Page(s)
LINE COUNT:             6277
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB     Multilayer optical films having one or more reflection bands are
       provided. The films include alternating polymeric layers configured to
       selectively reflect and transmit visible light at a design angle of
       incidence, where the selective reflection includes first and second
       visible reflection bands. At least one of the first and second visible
       reflection bands is a first-order reflection.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
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L9 ANSWER 2 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2009:244106 USPATFULL
TITLE: METHOD FOR MAKING PEN/PMMA MULTILAYER OPTICAL FILMS
INVENTOR(S): Stover, Carl A., St. Paul, MN, UNITED STATES
Hebrink, Timothy J., Scandia, MN, UNITED STATES
Liu, Yaoqi, Shoreview, MN, UNITED STATES
Merrill, William W., White Bear Lake, MN, UNITED STATES
Nerad, Bruce A., Oakdale, MN, UNITED STATES
Wheatley, John A., Lake Elmo, MN, UNITED STATES
PATENT ASSIGNEE(S): 3M Innovative Properties Company (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 20090218707	A1	20090903	
APPLICATION INFO.:	US 2009-391002	A1	20090223	(12)

RELATED APPLN. INFO.: Continuation of Ser. No. US 2004-10665, filed on 13 Dec 2004, PENDING Continuation of Ser. No. US 2001-810743, filed on 16 Mar 2001, Pat. No. US 6830713 Continuation of Ser. No. US 1999-229724, filed on 13 Jan 1999, ABANDONED Continuation-in-part of Ser. No. US 1998-6288, filed on 13 Jan 1998, ABANDONED
DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: 3M INNOVATIVE PROPERTIES COMPANY, PO BOX 33427, ST. PAUL, MN, 55133-3427, US
NUMBER OF CLAIMS: 13
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 4 Drawing Page(s)
LINE COUNT: 3006
AB Methods and apparatuses are provided for the manufacture of coextruded polymeric multilayer optical films. The multilayer optical films have an ordered arrangement of layers of two or more materials having particular layer thicknesses and a prescribed layer thickness gradient throughout the multilayer optical stack. The methods and apparatuses described allow improved control over individual layer thicknesses, layer thickness gradients, indices of refraction, interlayer adhesion, and surface characteristics of the optical films. The methods and apparatuses described are useful for making interference polarizers, mirrors, and colored films that are optically effective over diverse portions of the ultraviolet, visible, and infrared spectra.

L9 ANSWER 3 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2007:309438 USPATFULL
TITLE: Thermoplastic Elastomer Composition and Molded Article Thereof
INVENTOR(S): Kanae, Kentarou, Mie, JAPAN
Nakanishi, Hideo, Mie, JAPAN
Kobayashi, Masato, Mie, JAPAN
Koujina, Junji, Mie, JAPAN
PATENT ASSIGNEE(S): JSR Corporation, Tokyo, JAPAN, 104-8410 (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 20070270540	A1	20071122	
APPLICATION INFO.:	US 2004-584320	A1	20041210	(10)
	WO 2004-JP18476		20041210	
			20061228	PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	JP 2003-433855	20031226

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C., 1940 DUKE STREET, ALEXANDRIA, VA, 22314, US
NUMBER OF CLAIMS: 13
EXEMPLARY CLAIM: 1-10
LINE COUNT: 1245
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB There is provided a thermoplastic elastomer composition including an ethylene/α-olefin copolymeric rubber (A1) or an extended rubber (X) comprising an ethylene/α-olefin copolymeric rubber (A2) and a mineral oil softener (E2), and a thermoplastic α-olefin resin (B) comprising a α-olefinic crystalline thermoplastic resin (B1) and/or a α-olefinic amorphous thermoplastic resin (B2), an unmodified organopolysiloxane (C), a viny-terminated organopolysiloxane (D), and a mineral oil softener (E1); and molded article produced by forming the thermoplastic elastomer composition. There is provided a thermoplastic elastomer composition and a molded article thereof having excellent molding appearance by imparting an initial sliding ability with an organopolysiloxane having low viscosity and by adding a crosslinked vinylated organopolysiloxane to a thermoplastic elastomer composition to exhibit durable abrasion resistance (long term sliding ability).

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 4 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2007:210467 USPATFULL
TITLE: Polymeric Interference Films For Horticultural Applications
INVENTOR(S): Wheatley, John A., Lake Elmo, MN, UNITED STATES
Ouderkirk, Andrew J., Woodbury, MN, UNITED STATES
Hicks, Andrew M., Earley Reading, UNITED KINGDOM
Schubert, Charlene M., Chanhassen, MN, UNITED STATES
Jaster, Paul A., Carlsbad, CA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20070184274	A1	20070809
APPLICATION INFO.:	US 2006-561822	A1	20061120 (11)

RELATED APPLN. INFO.: Continuation of Ser. No. US 2004-952335, filed on 27 Sep 2004, GRANTED, Pat. No. US 7138173 Continuation of Ser. No. US 2002-188175, filed on 1 Jul 2002, GRANTED, Pat. No. US 6797366 Continuation of Ser. No. US 1998-6591, filed on 13 Jan 1998, GRANTED, Pat. No. US 6531230
DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: 3M INNOVATIVE PROPERTIES COMPANY, PO BOX 33427, ST. PAUL, MN, 55133-3427, US
NUMBER OF CLAIMS: 17
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 28 Drawing Page(s)
LINE COUNT: 6275
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Multilayer polymeric films and other optical bodies are provided for use in horticultural applications. The optical bodies include a spectrally

selective film comprising alternating polymeric layers configured to selectively reflect and transmit light at a design angle of incidence. The selective reflection and transmission is adapted to control plant growth or plant movement.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 5 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2006:322546 USPATFULL
TITLE: Thermoplastic elastomer composition and molded article thereof
INVENTOR(S): Kanae, Kentarou, Mie, JAPAN
Maeda, Minoru, Yokkaichi-shi, JAPAN
Abe, Yutaka, Yokkaichi-shi, JAPAN
PATENT ASSIGNEE(S): JSR Corporation, Tokyo, JAPAN, 104-8410 (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 20060276592	A1	20061207	
APPLICATION INFO.:	US 2005-565780	A1	20050107	(10)
	WO 2005-JP89		20050107	
			20060728	PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	JP 2004-4347	20040109

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: C. IRVIN MCCLELLAND, OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C., 1940 DUKE STREET, ALEXANDRIA, VA, 22314, US
NUMBER OF CLAIMS: 23
EXEMPLARY CLAIM: 1-8
LINE COUNT: 1312
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB According to the present invention, there are provided a thermoplastic elastomer composition which includes (A1) an ethylene.cndot.α-olefin-based copolymer or (X) an oil-extended rubber, (B) a crystalline polyethylene type resin, (C) a first hydrogenated block copolymer, and (D) a second hydrogenated block copolymer, and may further includes (E1) a mineral oil type softening agent; and a molded article thereof. The thermoplastic elastomer composition and the molded article are superior in rubber elasticity (compression set), mechanical strength and moldability and, when containing a mineral oil type softening agent, is low in oil bleeding.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 6 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2006:181643 USPATFULL
TITLE: Olefinic thermoplastic elastomer sheet, process for produciton thereof, and laminates
INVENTOR(S): Kanae, Kentarou, Tokyo, JAPAN
Hayakawa, Toshiyuki, Tokyo, JAPAN
Tanaka, Minoru, Tokyo, JAPAN
Morikawa, Akihiko, Tokyo, JAPAN
PATENT ASSIGNEE(S): JSR CORPORATION, Tokyo, JAPAN (non-U.S. corporation)

	NUMBER	KIND	DATE

PATENT INFORMATION:	US 20060154038	A1	20060713	
	US 7163983	B2	20070116	
APPLICATION INFO.:	US 2003-540568	A1	20031224	(10)
	WO 2003-JP16630		20031224	
			20050624	PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	JP 2002-379677	20021227

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C., 1940 DUKE STREET, ALEXANDRIA, VA, 22314, US
NUMBER OF CLAIMS: 7
EXEMPLARY CLAIM: 1
LINE COUNT: 1067
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Disclosed herein are an olefinic thermoplastic elastomer sheet which has the same rubber elasticity, flexibility and molding or forming and processing ability as those of the conventional olefinic thermoplastic elastomer sheets and is good in mechanical properties and excellent in mar resistance in particular, a production process thereof, and a laminate having a surface layer composed of this sheet. The olefinic thermoplastic elastomer sheet according to the present invention is composed of an elastomer material comprising an olefin random copolymer obtained by copolymerizing ethylene, an α-olefin having 3 to 10 carbon atoms and an unsaturated monomer having a functional group, and optionally a non-conjugated diene, and a metal ion for crosslinking the olefin random copolymer.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 7 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2005:221775 USPATFULL
TITLE: Thermometer
INVENTOR(S): Butterworth, Andrew, Langford N.Somerset, UNITED KINGDOM

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 20050192512	A1	20050901	
APPLICATION INFO.:	US 2003-507931	A1	20030314	(10)
	WO 2003-GB1144		20030314	
			20050428	PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	GB 2002-6260	20020316

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: BOZICEVIC, FIELD & FRANCIS LLP, 1900 UNIVERSITY AVENUE, SUITE 200, EAST PALO ALTO, CA, 94303, US
NUMBER OF CLAIMS: 21
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 1 Drawing Page(s)
LINE COUNT: 417

AB A thermometer is described which is suitable as an indwelling thermometer to detect pyrexia or oestrus in a mammal. The thermometer provides a continued signal that a predetermined reference temperature

has been exceeded, which temperature is selected to be indicative of pyrexia or oestrus in a given species and may change according to species.

L9 ANSWER 8 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2005:202409 USPATFULL
TITLE: Multilayer optical film with antistatic additive
INVENTOR(S): Hebrink, Timothy J., Scandia, MN, UNITED STATES
Liu, Yaoqi, Shoreview, MN, UNITED STATES
Neavin, Terence D., St. Paul, MN, UNITED STATES
Ouderkirk, Andrew J., Woodbury, MN, UNITED STATES
PATENT ASSIGNEE(S): 3M Innovative Properties Company (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20050175827	A1	20050811
APPLICATION INFO.:	US 2004-7099	A1	20041207 (11)

RELATED APPLN. INFO.: Continuation of Ser. No. US 2001-810916, filed on 16 Mar 2001, GRANTED, Pat. No. US 6827886 Continuation of Ser. No. US 1999-229724, filed on 13 Jan 1999, ABANDONED Continuation-in-part of Ser. No. US 1998-6288, filed on 13 Jan 1998, ABANDONED
DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: 3M INNOVATIVE PROPERTIES COMPANY, PO BOX 33427, ST. PAUL, MN, 55133-3427, US
NUMBER OF CLAIMS: 27
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 4 Drawing Page(s)
LINE COUNT: 3046
AB Methods and apparatuses are provided for the manufacture of coextruded polymeric multilayer optical films. The multilayer optical films have an ordered arrangement of layers of two or more materials having particular layer thicknesses and a prescribed layer thickness gradient throughout the multilayer optical stack. The methods and apparatuses described allow improved control over individual layer thicknesses, layer thickness gradients, indices of refraction, interlayer adhesion, and surface characteristics of the optical films. The methods and apparatuses described are useful for making interference polarizers, mirrors, and colored films that are optically effective over diverse portions of the ultraviolet, visible, and infrared spectra.

L9 ANSWER 9 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2005:186935 USPATFULL
TITLE: Method for making PEN/PMMA multilayer optical films
INVENTOR(S): Stover, Carl A., St. Paul, MN, UNITED STATES
Hebrink, Timothy J., Scandia, MN, UNITED STATES
Liu, Yaoqi, Shoreview, MN, UNITED STATES
Merrill, William W., White Bear Lake, MN, UNITED STATES
Nerad, Bruce A., Oakdale, MN, UNITED STATES
Wheatley, John A., Lake Elmo, MN, UNITED STATES
PATENT ASSIGNEE(S): 3M Innovative Properties Company (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20050161840	A1	20050728
APPLICATION INFO.:	US 2004-10665	A1	20041213 (11)

RELATED APPLN. INFO.: Continuation of Ser. No. US 2001-810743, filed on 16

Mar 2001, GRANTED, Pat. No. US 6830713 Continuation of Ser. No. US 1999-229724, filed on 13 Jan 1999, ABANDONED Continuation-in-part of Ser. No. US 1998-6288, filed on 13 Jan 1998, ABANDONED
DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: 3M INNOVATIVE PROPERTIES COMPANY, PO BOX 33427, ST. PAUL, MN, 55133-3427, US
NUMBER OF CLAIMS: 16
EXEMPLARY CLAIM: 1-8
NUMBER OF DRAWINGS: 4 Drawing Page(s)
LINE COUNT: 3011
AB Methods and apparatuses are provided for the manufacture of coextruded polymeric multilayer optical films. The multilayer optical films have an ordered arrangement of layers of two or more materials having particular layer thicknesses and a prescribed layer thickness gradient throughout the multilayer optical stack. The methods and apparatuses described allow improved control over individual layer thicknesses, layer thickness gradients, indices of refraction, interlayer adhesion, and surface characteristics of the optical films. The methods and apparatuses described are useful for making interference polarizers, mirrors, and colored films that are optically effective over diverse portions of the ultraviolet, visible, and infrared spectra.

L9 ANSWER 10 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2005:148646 USPATFULL
TITLE: Immisible polymer filled optical elements
INVENTOR(S): Kaminsky, Cheryl J., Webster, NY, UNITED STATES
Bourdelais, Robert P., Pittsford, NY, UNITED STATES
Brickey, Michael R., Webster, NY, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20050127542	A1	20050616
APPLICATION INFO.:	US 2005-52346	A1	20050207 (11)

RELATED APPLN. INFO.: Division of Ser. No. US 2003-443204, filed on 22 May 2003, ABANDONED
DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: Paul A. Leipold, Patent Legal Staff, Eastman Kodak Company, 343 State Street, Rochester, NY, 14650-2201, US
NUMBER OF CLAIMS: 4
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 2 Drawing Page(s)
LINE COUNT: 1844
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Disclosed is a light directing polymeric film bearing on a surface thereof a three-dimensional features having an Ra of at least 3, the features containing a polymer dispersion comprising a continuous phase thermoplastic first polymeric material and a discontinuous phase thermoplastic second polymeric material that is immiscible with the first polymeric material and is dispersed in elongated micro-regions.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 11 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2005:128729 USPATFULL
TITLE: Method for making textured multilayer optical films

INVENTOR(S): Stover, Carl A., St. Paul, MN, UNITED STATES
PATENT ASSIGNEE(S): 3M Innovative Properties Company (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20050110175	A1	20050526
APPLICATION INFO.:	US 2004-973034	A1	20041025 (10)

RELATED APPLN. INFO.: Continuation of Ser. No. US 2001-809551, filed on 15 Mar 2001, GRANTED, Pat. No. US 6808658 Continuation of Ser. No. US 1999-229724, filed on 13 Jan 1999, ABANDONED Continuation-in-part of Ser. No. US 1998-6288, filed on 13 Jan 1998, ABANDONED
DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: 3M INNOVATIVE PROPERTIES COMPANY, PO BOX 33427, ST. PAUL, MN, 55133-3427, US
NUMBER OF CLAIMS: 3
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 4 Drawing Page(s)
LINE COUNT: 2970

AB Methods and apparatuses are provided for the manufacture of coextruded polymeric multilayer optical films. The multilayer optical films have an ordered arrangement of layers of two or more materials having particular layer thicknesses and a prescribed layer thickness gradient throughout the multilayer optical stack. The methods and apparatuses described allow improved control over individual layer thicknesses, layer thickness gradients, indices of refraction, interlayer adhesion, and surface characteristics of the optical films. The methods and apparatuses described are useful for making interference polarizers, mirrors, and colored films that are optically effective over diverse portions of the ultraviolet, visible, and infrared spectra.

L9 ANSWER 12 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2005:118464 USPATFULL
TITLE: Fibers made from block copolymer
INVENTOR(S): Webb, Steven P., Midland, MI, UNITED STATES
Austin, Jared A., Greer, SC, UNITED STATES
Baltes, Thomas, Hannover, GERMANY, FEDERAL REPUBLIC OF
Toney, Kenneth A., Baton Rouge, LA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20050101739	A1	20050512
	US 7309522	B2	20071218
APPLICATION INFO.:	US 2004-887467	A1	20040708 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2003-485841P	20030709 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: O'KEEFE, EGAN & PETERMAN, L.L.P., Building C, Suite 200, 1101 Capital of Texas Highway South, Austin, TX, 78746, US
NUMBER OF CLAIMS: 102
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 11 Drawing Page(s)
LINE COUNT: 1995
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to compositions such as fibers, elastic yarns, wovens, nonwovens, knitted fabrics, fine nets, and articles produced at least in part from a styrenic block copolymer comprising at least two blocks produced from vinyl aromatic monomers and at least one block produced from alkyl-substituted, conjugated alkene monomers, where the block produced from the conjugated alkene may have sufficient substitution so as to prevent or significantly minimize thermal cross-linking of the residual unsaturation in the formed block during fiber formation. Additionally, the composition may be described as processable, without requiring any additives if, for example, the order-disorder-transition (ODT) temperature is less than about 280° C.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 13 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2005:112351 USPATFULL
TITLE: Molding for automobile
INVENTOR(S): Kanae, Kentarou, Yokkaichi-shi, JAPAN
Hayakawa, Toshiyuki, Yokkaichi-shi, JAPAN
Tanaka, Minoru, Yokkaichi-shi, JAPAN
Morikawa, Akihiko, Yokkaichi-shi, JAPAN
PATENT ASSIGNEE(S): JSR Corpration, Chuo-ku, Tokyo,, JAPAN, 104-0045 (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 20050096437	A1	20050505	
	US 6982302	B2	20060103	
APPLICATION INFO.:	US 2003-505882	A1	20031224	(10)
	WO 2003-JP16631		20031224	

	NUMBER	DATE
PRIORITY INFORMATION:	JP 2002-379678	20021227

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C., 1940 DUKE STREET, ALEXANDRIA, VA, 22314, US
NUMBER OF CLAIMS: 17
EXEMPLARY CLAIM: 1
LINE COUNT: 949
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Disclosed herein is an automotive molding, which is excellent in scratching resistance, has high gloss and moreover is excellent in weathering resistance. The automotive molding of the invention has a part composed of an elastomer material containing an olefinic random copolymer obtained by copolymerizing ethylene, an α-olefin having 3 to 10 carbon atoms and an unsaturated monomer having a functional group, and optionally a non-conjugated diene, and a metal ion for crosslinking the olefinic random copolymer.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 14 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2005:92658 USPATFULL
TITLE: Red-green-blue polymeric interference film
INVENTOR(S): Wheatley, John A., Lake Elmo, MN, UNITED STATES
Ouderkirk, Andrew J., Woodbury, MN, UNITED STATES
Nevitt, Timothy J., Red Wing, MN, UNITED STATES

	Weber, Michael F., Shoreview, MN, UNITED STATES		
PATENT ASSIGNEE(S):	3M Innovative Properties Company (U.S. corporation)		
	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20050079333	A1	20050414
	US 7138173	B2	20061121
APPLICATION INFO.:	US 2004-952335	A1	20040927 (10)

RELATED APPLN. INFO.: Continuation of Ser. No. US 2002-188175, filed on 1 Jul 2002, GRANTED, Pat. No. US 6797366 Continuation of Ser. No. US 1998-6591, filed on 13 Jan 1998, GRANTED, Pat. No. US 6531230

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: 3M INNOVATIVE PROPERTIES COMPANY, PO BOX 33427, ST. PAUL, MN, 55133-3427, US
NUMBER OF CLAIMS: 17
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 28 Drawing Page(s)
LINE COUNT: 6270
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Multilayer polymeric films and other optical bodies are provided which is useful in making colored mirrors and polarizers. The films are characterized by a change in color as a function of viewing angle.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 15 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2005:74993 USPATFULL
TITLE: Electrode, electrochemical device, method for manufacturing electrode, and method for manufacturing electrochemical device
INVENTOR(S): Suzuki, Tadashi, Tokyo, JAPAN
Kurihara, Masato, Tokyo, JAPAN
Maruyama, Satoshi, Tokyo, JAPAN
PATENT ASSIGNEE(S): TDK CORPORATION, Tokyo, JAPAN (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20050064289	A1	20050324
APPLICATION INFO.:	US 2004-876636	A1	20040628 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	JP 2003-307733	20030829
	JP 2003-270720	20030703
	JP 2003-430838	20031225

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: OLIFF & BERRIDGE, PLC, P.O. BOX 19928, ALEXANDRIA, VA, 22320
NUMBER OF CLAIMS: 23
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 17 Drawing Page(s)
LINE COUNT: 2772
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The electrode of the present invention is provided with an active material-containing layer comprising as the structural material composite particles composed of an electrode active material, a conductive additive and a binder, and a current collector in electrical

contact with the layer. The composite particles are formed by integrating the conductive additive and binder with the electrode active material particles. The active material-containing layer is formed by subjecting powder comprising at least the composite particles to pressurization treatment to form a sheet, and placing the sheet at the location of the current collector at which the active material-containing layer is to be formed. The electrode active material and conductive additive in the active material-containing layer are non-isolated and electrically linked. This construction allows an electrode with excellent electrical characteristics to be realized, which exhibits adequately reduced internal resistance and easily permits increased energy density to be achieved for electrochemical devices.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 16 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2004:298860 USPATFULL
TITLE: Immisible polymer filled optical elements
INVENTOR(S): Kaminsky, Cheryl J., Webster, NY, UNITED STATES
Bourdelais, Robert P., Pittsford, NY, UNITED STATES
Brickey, Michael R., Webster, NY, UNITED STATES
PATENT ASSIGNEE(S): Eastman Kodak Company (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 20040234724	A1	20041125	
APPLICATION INFO.:	US 2003-443204	A1	20030522	(10)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: Paul A. Leipold, Patent Legal Staff, Eastman Kodak Company, 343 State Street, Rochester, NY, 14650-2201
NUMBER OF CLAIMS: 36
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 3 Drawing Page(s)
LINE COUNT: 1946
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Disclosed is a light directing polymeric film bearing on a surface thereof a three-dimensional features having an Ra of at least 3, the features containing a polymer dispersion comprising a continuous phase thermoplastic first polymeric material and a discontinuous phase thermoplastic second polymeric material that is immiscible with the first polymeric material and is dispersed in elongated micro-regions.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 17 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2004:168228 USPATFULL
TITLE: Brightness enhancement film
INVENTOR(S): Allen, Richard C., Mendota Heights, MN, United States
Carlson, Lockwood W., Stillwater, MN, United States
Ouderkirk, Andrew J., Woodbury, MN, United States
Weber, Michael F., Shoreview, MN, United States
Kotz, Arthur L., White Bear Lake, MN, United States
Nevitt, Timothy J., Red Wing, MN, United States
Stover, Carl A., St. Paul, MN, United States
Majumdar, Biswaroop, Delmar, NY, United States
PATENT ASSIGNEE(S): 3M Innovative Properties Company, Saint Paul, MN, United States (U.S. corporation)

	NUMBER	KIND	DATE

PATENT INFORMATION:	US 6760157	B1	20040706
APPLICATION INFO.:	US 2000-624947		20000725 (9)
RELATED APPLN. INFO.:	Division of Ser. No. US 1997-807262, filed on 28 Feb 1997, now patented, Pat. No. US 6111696 Continuation-in-part of Ser. No. US 1996-610092, filed on 29 Feb 1996, now patented, Pat. No. US 5825543		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	GRANTED		
PRIMARY EXAMINER:	Chang, Audrey		
ASSISTANT EXAMINER:	Curtis, Craig		
LEGAL REPRESENTATIVE:	Fortkort, John A., Jensen, Stephen C.		
NUMBER OF CLAIMS:	41		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	27 Drawing Figure(s); 17 Drawing Page(s)		
LINE COUNT:	3359		

AB An optical film is provided which comprises a disperse phase of polymeric particles disposed within a continuous birefringent matrix in combination with light directing materials to enable control of light emitted from a lighting fixture or display. The film is oriented, typically by stretching, in one or more directions. The size and shape of the disperse phase particles, the volume fraction of the disperse phase, the film thickness, and the amount of orientation are chosen to attain a desired degree of diffuse reflection and total transmission of electromagnetic radiation of a desired wavelength in the resulting film, and the light directing materials are chosen to control the direction of polarized light reflected from or transmitted by the optical film.

L9 ANSWER 18 OF 53 USPATFULL on STN

ACCESSION NUMBER:	2004:134014 USPATFULL		
TITLE:	Resin composition for wire and cable covering material		
INVENTOR(S):	Sato, Sho, Utsunomiya-shi, JAPAN Kubo, Hiroshi, Moka City, JAPAN		

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 20040102551	A1	20040527	
	US 7524894	B2	20090428	
APPLICATION INFO.:	US 2003-714428	A1	20031113	(10)

	NUMBER	DATE
PRIORITY INFORMATION:	JP 2002-2678010	20021114
	JP 2002-330969	20021114

DOCUMENT TYPE:	Utility
FILE SEGMENT:	APPLICATION
LEGAL REPRESENTATIVE:	CANTOR COLBURN, LLP, 55 GRIFFIN ROAD SOUTH, BLOOMFIELD, CT, 06002
NUMBER OF CLAIMS:	26
EXEMPLARY CLAIM:	1
LINE COUNT:	575

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A flexible resin composition comprises poly(arylene ether) resin, syndiotactic polystyrene, olefin elastomer, hydrogenated styrene-butadiene copolymer, and a non-halogen fire retardant.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 19 OF 53 USPATFULL on STN

ACCESSION NUMBER: 2004:77296 USPATFULL
TITLE: Styrene copolymer
INVENTOR(S): Lee, Kwanyoung, Daejeon, KOREA, REPUBLIC OF
Choi, Namsun, Daejeon, KOREA, REPUBLIC OF
PATENT ASSIGNEE(S): KOREA KUMHO PETROCHEMICAL CO., LTD., Seoul, KOREA, REPUBLIC OF (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 20040059075	A1	20040325	
	US 6756448	B2	20040629	
APPLICATION INFO.:	US 2003-439544	A1	20030515	(10)

	NUMBER	DATE
PRIORITY INFORMATION:	KR 2002-57290	20020919

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: SQUIRE, SANDERS & DEMPSEY L.L.P, 600 HANSEN WAY, PALO ALTO, CA, 94304-1043
NUMBER OF CLAIMS: 25
EXEMPLARY CLAIM: 1
LINE COUNT: 763
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to a styrene copolymer and the method of preparing the same through the steps described in the following:

A step of making a living polymer with an active anion by polymerizing an anionically polymerizable monomer in a non polar solvent in the presence of alkyllithum catalyst;

A step of preparing a macro monomer by reacting the abovementioned living polymer with a terminal modifier represented by the structure of formula 1 and

a step of copolymerizing the above macro monomer with styrene monomer with transition catalyst and co-catalyst.

The styrene copolymer, thus prepared, comprises repeated units of styrene monomers and repeated units of the macro monomers. The repeated monomers of styrene has syndiotactic structure.

The preparation method of the present invention provides high yield of syndiotactic styrene copolymer at room temperature. The present invention is characterized in that it utilizes styrene derivative, substituted with reactive chlorosilyl group as the terminal modifier, making a reactive and selective macromonomer at room temperature, and consequently preparing styrene copolymer effectively.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 20 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2003:67620 USPATFULL
TITLE: Color shifting film
INVENTOR(S): Weber, Michael F., Shoreview, MN, United States
Nevitt, Timothy J., Red Wing, MN, United States
Merrill, William W., White Bear Lake, MN, United States
Roscoe, Kelly M., Orono, MN, United States
Ouderkirk, Andrew J., Woodbury, MN, United States
Wheatley, John A., Lake Elmo, MN, United States

	Hanson, Gary B., Hudosn, WI, United States Jonza, James M., Woodbury, MN, United States Boettcher, Jeffrey A., Falcon Heights, MN, United States Liu, Yaoqi J., Maplewood, MN, United States Neavin, Terence D., St. Paul, MN, United States
PATENT ASSIGNEE(S):	3M Innovative Properties Company, St. Paul, MN, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6531230	B1	20030311	
APPLICATION INFO.:	US 1998-6591		19980113	(9)

DOCUMENT TYPE:	Utility
FILE SEGMENT:	GRANTED
PRIMARY EXAMINER:	Chen, Vivian
LEGAL REPRESENTATIVE:	Pechman, Robert J.
NUMBER OF CLAIMS:	10
EXEMPLARY CLAIM:	1
NUMBER OF DRAWINGS:	49 Drawing Figure(s); 28 Drawing Page(s)
LINE COUNT:	6270

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Multilayer polymeric films and other optical bodies are provided which is useful in making colored mirrors and polarizers. The films are characterized by a highly uniform change in color as a function of viewing angle.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 21 OF 53 USPATFULL on STN

ACCESSION NUMBER:	2003:51015 USPATFULL
TITLE:	Color shifting film articles
INVENTOR(S):	Hanson, Gary B., Hudson, WI, UNITED STATES Jonza, James M., Woodbury, MN, UNITED STATES Ouderkirk, Andrew J., Woodbury, MN, UNITED STATES Wheatley, John A., Lake Elmo, MN, UNITED STATES
PATENT ASSIGNEE(S):	3M Innovative Properties Company (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 20030035972	A1	20030220	
	US 6797366	B2	20040928	
APPLICATION INFO.:	US 2002-188175	A1	20020701	(10)

RELATED APPLN. INFO.:	Continuation of Ser. No. US 1998-6591, filed on 13 Jan 1998, ABANDONED
DOCUMENT TYPE:	Utility
FILE SEGMENT:	APPLICATION
LEGAL REPRESENTATIVE:	Atten: Stephen C. Jensen, Office of Intellectual Property Counsel, 3M Innovative Properties Company, P.O. Box 33427, St. Paul, MN, 55133-3427
NUMBER OF CLAIMS:	17
EXEMPLARY CLAIM:	1
NUMBER OF DRAWINGS:	28 Drawing Page(s)
LINE COUNT:	6304

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Multilayer polymeric films and other optical bodies are provided which is useful in making colored mirrors and polarizers. The films are characterized by a change in color as a function of viewing angle.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 22 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2003:10450 USPATFULL
TITLE: Color shifting film glitter
INVENTOR(S): Whitney, Leland R., St. Paul, MN, UNITED STATES
Ouderkirk, Andrew J., Woodbury, MN, UNITED STATES
Scanlan, Thomas J., Woodbury, MN, UNITED STATES
PATENT ASSIGNEE(S): 3M Innovative Properties Company (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20030008144	A1	20030109
APPLICATION INFO.:	US 2002-218163	A1	20020813 (10)

RELATED APPLN. INFO.: Continuation of Ser. No. US 2000-582932, filed on 5 Jul 2000, GRANTED, Pat. No. US 6475609 A 371 of International Ser. No. WO 1999-US742, filed on 13 Jan 1999, PENDING A 371 of International Ser. No. US 1998-6291, filed on 13 Jan 1998, ABANDONED
DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: 3M INNOVATIVE PROPERTIES COMPANY, PO BOX 33427, ST. PAUL, MN, 55133-3427
NUMBER OF CLAIMS: 35
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 10 Drawing Page(s)
LINE COUNT: 2740
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Glitter, at least a portion of which comprises color shifting film. The glitter is useful in any of a variety ways, including in loose form, attached to the surface of a substrate, in a dispersible combination, or present in a matrix material ranging, for example, from liquids, such as water and alcohols, to gels, such as silicone and glycerol, to hard, rigid materials such as plastics, particle board, and fiberglass. Examples of other matrix materials include putties or molding clays, rubbers, and adhesives.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 23 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2003:3267 USPATFULL
TITLE: Visible mirror film glitter
INVENTOR(S): Whitney, Leland R., St. Paul, MN, UNITED STATES
Ouderkirk, Andrew J., Woodbury, MN, UNITED STATES
PATENT ASSIGNEE(S): 3M Innovative Properties Company (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20030003301	A1	20030102
APPLICATION INFO.:	US 2002-217772	A1	20020813 (10)

RELATED APPLN. INFO.: Continuation of Ser. No. US 2000-582928, filed on 5 Jul 2000, GRANTED, Pat. No. US 6455140 A 371 of International Ser. No. WO 1999-US741, filed on 13 Jan 1999, PENDING A 371 of International Ser. No. US 1998-6293, filed on 13 Jan 1998, ABANDONED
DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: 3M INNOVATIVE PROPERTIES COMPANY, PO BOX 33427, ST. PAUL, MN, 55133-3427
NUMBER OF CLAIMS: 30
EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 10 Drawing Page(s)
LINE COUNT: 2671
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Glitter, at least a portion of which, comprise visible mirror film. The glitter is useful in any of a variety ways, including in loose form, attached to the surface of a substrate, in a dispersible combination, or present in a matrix material ranging, for example, from liquids, such as water and alcohols, to gels, such as silicone and glycerol, to hard, rigid materials such as plastics, particle board, and fiberglass. Examples of other matrix materials include putties or molding clays, rubbers, and adhesives.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 24 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2002:290648 USPATFULL
TITLE: Color shifting film glitter
INVENTOR(S): Whitney, Leland R., St. Paul, MN, United States
Ouderkirk, Andrew J., Woodbury, MN, United States
Scanlan, Thomas J., Woodbury, MN, United States
PATENT ASSIGNEE(S): 3M Innovative Properties Company, Saint Paul, MN, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6475609	B1	20021105	
	WO 9936478		19990722	
APPLICATION INFO.:	US 2000-582932		20000705	(9)
	WO 1999-US742		19990113	
			20000705	PCT 371 date

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1998-6291, filed on 13 Jan 1998, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Kiliman, Leszek
LEGAL REPRESENTATIVE: Bjorkman, Dale A., Jensen, Stephen C.
NUMBER OF CLAIMS: 58
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 32 Drawing Figure(s); 10 Drawing Page(s)
LINE COUNT: 2787
AB Glitter, at least a portion of which comprises color shifting film. The glitter is useful in any of a variety of ways, including in loose form, attached to the surface of a substrate, in a dispersible combination, or present in a matrix material ranging, for example, from liquids, such as water and alcohols, to gels, such as silicone and glycerol, to hard, rigid materials such as plastics, particle board, and fiberglass. Examples of other matrix materials include putties or molding clays, rubbers, and adhesives.

L9 ANSWER 25 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2002:246447 USPATFULL
TITLE: Visible mirror film glitter
INVENTOR(S): Whitney, Leland R., St. Paul, MN, United States
Ouderkirk, Andrew J., Woodbury, MN, United States
PATENT ASSIGNEE(S): 3M Innovative Properties Company, St. Paul, MN, United States (U.S. corporation)

	NUMBER	KIND	DATE

PATENT INFORMATION: US 6455140 B1 20020924
WO 9936477 19990722
APPLICATION INFO.: US 2000-582928 20000705 (9)
WO 1999-US741 19990113
20000705 PCT 371 date
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Kiliman, Leszek
LEGAL REPRESENTATIVE: Bjorkman, Dale A., Jensen, Stephen C.
NUMBER OF CLAIMS: 47
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 32 Drawing Figure(s); 10 Drawing Page(s)
LINE COUNT: 2684
AB Glitter, at least a portion of which, comprise visible mirror film. The glitter is useful in any of a variety of ways, including in loose form, attached to the surface of a substrate, in a dispersible combination, or present in a matrix material ranging, for example, from liquids, such as water and alcohols, to gels, such as silicone and glycenol, to hard, rigid materials such as plastics, particle board and fiberglass.

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L9 ANSWER 25 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2002:246447 USPATFULL
TITLE: Visible mirror film glitter
INVENTOR(S): Whitney, Leland R., St. Paul, MN, United States
Ouderkirk, Andrew J., Woodbury, MN, United States
PATENT ASSIGNEE(S): 3M Innovative Properties Company, St. Paul, MN, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6455140	B1	20020924	
	WO 9936477		19990722	
APPLICATION INFO.:	US 2000-582928		20000705	(9)
	WO 1999-US741		19990113	
			20000705	PCT 371 date

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Kiliman, Leszek
LEGAL REPRESENTATIVE: Bjorkman, Dale A., Jensen, Stephen C.
NUMBER OF CLAIMS: 47
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 32 Drawing Figure(s); 10 Drawing Page(s)
LINE COUNT: 2684
AB Glitter, at least a portion of which, comprise visible mirror film. The glitter is useful in any of a variety of ways, including in loose form, attached to the surface of a substrate, in a dispersible combination, or present in a matrix material ranging, for example, from liquids, such as water and alcohols, to gels, such as silicone and glycenol, to hard, rigid materials such as plastics, particle board and fiberglass.

L9 ANSWER 26 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2002:16097 USPATFULL
TITLE: Hand-holdable toy light tube
INVENTOR(S): Hanson, Gary B., Hudson, WI, UNITED STATES
Weber, Michael F., Shoreview, MN, UNITED STATES

Ouderkirk, Andrew J., Woodbury, MN, UNITED STATES
PATENT ASSIGNEE(S): 3M Innovative Properties Company (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20020008970	A1	20020124
	US 6641280	B2	20031104
APPLICATION INFO.:	US 2001-963304	A1	20010926 (9)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1999-408473, filed on 28 Sep 1999, ABANDONED Continuation of Ser. No. US 1998-6088, filed on 13 Jan 1998, GRANTED, Pat. No. US 6082876
DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: Office of Intellectual Property Counsel, 3M Innovative Properties Company, PO Box 33427, St. Paul, MN, 55133-3427
NUMBER OF CLAIMS: 25
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 5 Drawing Page(s)
LINE COUNT: 1402
AB Hand-holdable toy light tube comprising a handle, a light source and a tube of color shifting film. The light source is preferably disposed within an end of the handle. The tube of color shifting film extends from the end of the handle. During use, light from the light source interacts with the tube of color shifting film, producing a brilliant colored effect. Movement of the handle and thus of the tube of color shifting film produces multiple colors.

L9 ANSWER 27 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2001:226709 USPATFULL
TITLE: Extended syndiotactic polystyrene-elastomeric block copolymers
INVENTOR(S): Kang, Jung W., Honolulu, HI, United States
Wang, Xiaorong, Akron, OH, United States
Luo, Xiao-Liang, Akron, OH, United States
Clark, Frank J., Massillon, OH, United States
Poulton, Jason T., Newark, OH, United States
Matsuse, Takahiro, Kodaira, Japan
Mashita, Naruhiko, Kodaira, Japan
Takeichi, Hideo, Akron, OH, United States
Toyosawa, Shinichi, Tokorozawa, Japan
PATENT ASSIGNEE(S): Bridgestone Corporation, Tokyo, Japan (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6329459	B1	20011211
APPLICATION INFO.:	US 1996-710829		19960923 (8)

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Niland, Patrick D.
LEGAL REPRESENTATIVE: David G. BurlesonJude A. Fry
NUMBER OF CLAIMS: 23
EXEMPLARY CLAIM: 1
LINE COUNT: 1041
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB There are disclosed a block copolymer of at least one elastomeric block and at least one syndiotactic

polystyrene block which comprises 100 parts by weight of a polymer component comprising 1 to 80% by weight of syndiotactic polystyrene (sPS) block(s) and 99 to 20% by weight of rubbery elastomeric block(s) and at least 30 parts by weight of an extender. These extended block copolymer compositions display the characteristics of thermoplastic elastomers and are useful for high temperature applications possessing unique softness.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 28 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2001:168770 USPATFULL
TITLE: Light fixture containing optical film
INVENTOR(S): Allen, Richard C., Mendota Heights, MN, United States
Nevitt, Timothy J., Red Wing, MN, United States
Ouderkirk, Andrew J., Woodbury, MN, United States
Kotz, Arthur L., Mahtomedi, MN, United States
Carlson, Lockwood W., St. Paul, MN, United States
Weber, Michael F., St. Paul, MN, United States
Stover, Carl A., St. Paul, MN, United States
Majumdar, Biswaroop, St. Paul, MN, United States
PATENT ASSIGNEE(S): 3M Innovative Properties Company, St. Paul, MN, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6297906	B1	20011002
APPLICATION INFO.:	US 1997-807270		19970228 (8)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1996-610092, filed on 29 Feb 1996, now patented, Pat. No. US 5825543
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Schuberg, Darren
LEGAL REPRESENTATIVE: Fortkort, John A.
NUMBER OF CLAIMS: 111
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 16 Drawing Figure(s); 9 Drawing Page(s)
LINE COUNT: 3300
AB An optical film is provided which comprises an antireflective layer and a disperse phase of polymeric particles disposed within a continuous birefringent matrix. The film is oriented, typically by stretching, in one or more directions. The size and shape of the disperse phase particles, the volume fraction of the disperse phase, the film thickness, and the amount of orientation are chosen to attain a desired degree of diffuse reflection and total transmission of electromagnetic radiation of a desired wavelength in the resulting film.

L9 ANSWER 29 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2001:160714 USPATFULL
TITLE: Apparatus for making multilayer optical films
INVENTOR(S): Neavin, Terence D., St. Paul, MN, United States
Ouderkirk, Andrew J., Woodbury, MN, United States
Biegler, Robert M., Woodbury, MN, United States
Liu, Yaoqi J., Maplewood, MN, United States
PATENT ASSIGNEE(S): 3M Innovative Properties Company (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20010022982	A1	20010920

	US 6783349	B2	20040831
APPLICATION INFO.:	US 2001-811200	A1	20010316 (9)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1999-229724, filed on 13 Jan 1999, PENDING Continuation-in-part of Ser. No. US 1998-6288, filed on 13 Jan 1998, ABANDONED
DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: Office of Intellectual Property Counsel, 3M Innovative Properties Company, PO Box 33427, St. Paul, MN, 55133-3427
NUMBER OF CLAIMS: 15
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 3 Drawing Page(s)
LINE COUNT: 3042

AB Methods and apparatuses are provided for the manufacture of coextruded polymeric multilayer optical films. The multilayer optical films have an ordered arrangement of layers of two or more materials having particular layer thicknesses and a prescribed layer thickness gradient throughout the multilayer optical stack. The methods and apparatuses described allow improved control over individual layer thicknesses, layer thickness gradients, indices of refraction, interlayer adhesion, and surface characteristics of the optical films. The methods and apparatuses described are useful for making interference polarizers, mirrors, and colored films that are optically effective over diverse portions of the ultraviolet, visible, and infrared spectra.

L9 ANSWER 30 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2001:149737 USPATFULL
TITLE: Method for making copen/pmma multilayer optical films
INVENTOR(S): Hebrink, Timothy J., Oakdale, MN, United States
Liu, Yaoqi J., Maplewood, MN, United States
Merrill, William Ward, White Bear Lake, MN, United States
Nerad, Bruce A., Oakdale, MN, United States
Wheatley, John A., Lake Elmo, MN, United States
PATENT ASSIGNEE(S): 3M Innovative Properties Company (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20010019182	A1	20010906
	US 6830713	B2	20041214
APPLICATION INFO.:	US 2001-810743	A1	20010316 (9)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1999-229724, filed on 13 Jan 1999, PENDING Continuation-in-part of Ser. No. US 1998-6288, filed on 13 Jan 1998, ABANDONED
DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: Office of Intellectual Property Counsel, 3M Innovative Properties Company, PO Box 33427, St. Paul, MN, 55133-3427
NUMBER OF CLAIMS: 3
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 3 Drawing Page(s)
LINE COUNT: 2988

AB Methods and apparatuses are provided for the manufacture of coextruded polymeric multilayer optical films. The multilayer optical films have an ordered arrangement of layers of two or more materials having particular layer thicknesses and a prescribed layer thickness gradient throughout the multilayer optical stack. The methods and apparatuses described

allow improved control over individual layer thicknesses, layer thickness gradients, indices of refraction, interlayer adhesion, and surface characteristics of the optical films. The methods and apparatuses described are useful for making interference polarizers, mirrors, and colored films that are optically effective over diverse portions of the ultraviolet, visible, and infrared spectra.

L9 ANSWER 31 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2001:133219 USPATFULL
TITLE: Method for making multilayer optical films
INVENTOR(S): Neavin, Terence D., St. Paul, MN, United States
Ouderkirk, Andrew J., Woodbury, MN, United States
Liu, Yaoqi J., Maplewood, MN, United States
PATENT ASSIGNEE(S): 3M Innovative Properties Company (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20010013668	A1	20010816
	US 6827886	B2	20041207
APPLICATION INFO.:	US 2001-810916	A1	20010316 (9)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1999-229724, filed on 13 Jan 1999, PENDING Continuation-in-part of Ser. No. US 1998-6288, filed on 13 Jan 1998, ABANDONED
DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: Office of Intellectual Property Counsel, 3M Innovative Properties Company, PO Box 33427, St. Paul, MN, 55133-3427
NUMBER OF CLAIMS: 2
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 3 Drawing Page(s)
LINE COUNT: 2988
AB Methods and apparatuses are provided for the manufacture of coextruded polymeric multilayer optical films. The multilayer optical films have an ordered arrangement of layers of two or more materials having particular layer thicknesses and a prescribed layer thickness gradient throughout the multilayer optical stack. The methods and apparatuses described allow improved control over individual layer thicknesses, layer thickness gradients, indices of refraction, interlayer adhesion, and surface characteristics of the optical films. The methods and apparatuses described are useful for making interference polarizers, mirrors, and colored fihns that are optically effective over diverse portions of the ultraviolet, visible, and infrared spectra.

L9 ANSWER 32 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2001:127792 USPATFULL
TITLE: Method for making textured multilayer optical films
INVENTOR(S): Stover, Carl A., St. Paul, MN, United States
PATENT ASSIGNEE(S): 3M Innovative Properties Company (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20010011779	A1	20010809
	US 6808658	B2	20041026
APPLICATION INFO.:	US 2001-809551	A1	20010315 (9)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1999-229724, filed on 13 Jan 1999, PENDING Continuation-in-part of Ser. No. US 1998-6288, filed on 13 Jan 1998, ABANDONED

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: Attention: Stephen C. Jensen, Office of Intellectual Property Counsel, 3M Innovative Properties Company, P.O. Box 33427, St. Paul, MN, 55133-3427
NUMBER OF CLAIMS: 1
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 3 Drawing Page(s)
LINE COUNT: 2974

AB Methods and apparatuses are provided for the manufacture of coextruded polymeric multilayer optical films. The multilayer optical films have an ordered arrangement of layers of two or more materials having particular layer thicknesses and a prescribed layer thickness gradient throughout the multilayer optical stack. The methods and apparatuses described allow improved control over individual layer thicknesses, layer thickness gradients, indices of refraction, interlayer adhesion, and surface characteristics of the optical films. The methods and apparatuses described are useful for making interference polarizers, mirrors, and colored films that are optically effective over diverse portions of the ultraviolet, visible, and infrared spectra.

L9 ANSWER 33 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2001:103653 USPATFULL
TITLE: Post-forming continuous/disperse phase optical bodies
INVENTOR(S): Merrill, William W., White Bear Lake, MN, United States
Allen, Richard C., Lilydale, MN, United States
Condo, Peter D., Lake Elmo, MN, United States
Benson, Jr., Olester, Woodbury, MN, United States
PATENT ASSIGNEE(S): 3M Innovative Properties, St. Paul, MN, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6256146	B1	20010703
APPLICATION INFO.:	US 1998-127314		19980731 (9)

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Shafer, Ricky D.
LEGAL REPRESENTATIVE: Pechman, Robert J.
NUMBER OF CLAIMS: 36
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 15 Drawing Figure(s); 8 Drawing Page(s)
LINE COUNT: 2932

AB Diffusely reflective articles manufactured from optical bodies including continuous and disperse phases are disclosed along with methods of manufacturing such articles. Also disclosed are underdrawn continuous/disperse phase optical bodies that are particularly well-suited to post-forming operations. The articles, methods and optical bodies of the present invention preferably allow for post-forming of the optical bodies while retaining desired levels of diffuse reflectivity in the articles formed from the optical bodies.

L9 ANSWER 34 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2000:123807 USPATFULL
TITLE: Game with privacy material
INVENTOR(S): Whitney, Leland R., St. Paul, MN, United States
Jordan, Myron K., Eagan, MN, United States
Scanlan, Thomas J., Woodbury, MN, United States

	Allen, Gregory D., Woodbury, MN, United States
PATENT ASSIGNEE(S):	3M Innovative Properties Co., St. Paul, MN, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6120026		20000919
APPLICATION INFO.:	US 1998-6327		19980113 (9)

DOCUMENT TYPE:	Utility
FILE SEGMENT:	Granted
PRIMARY EXAMINER:	Pierce, William M.
LEGAL REPRESENTATIVE:	Allen, Gregory D.
NUMBER OF CLAIMS:	28
EXEMPLARY CLAIM:	1
NUMBER OF DRAWINGS:	15 Drawing Figure(s); 8 Drawing Page(s)
LINE COUNT:	1633

AB Game with a privacy member. The game includes a play region and a directional viewing screen. The directional viewing screen covers at least a portion of the play region such that said portion of the play region is viewable therethrough at a first player position, but is not viewable therethrough at a second player position. The game with privacy member in accordance with the present invention allows for enhancement of existing games, as well as for the creation of new games or new play patterns of existing games.

L9 ANSWER 35 OF 53 USPATFULL on STN

ACCESSION NUMBER:	2000:114720 USPATFULL
TITLE:	Brightness enhancement film
INVENTOR(S):	Allen, Richard C., Mendota Heights, MN, United States Carlson, Lockwood W., Stillwater, MN, United States Ouderkirk, Andrew J., Woodbury, MN, United States Weber, Michael F., Shoreview, MN, United States Kotz, Arthur L., White Bear Lake, MN, United States Nevitt, Timothy J., Red Wing, MN, United States Stover, Carl A., St. Paul, MN, United States Majumdar, Biswaroop, Delmar, NY, United States
PATENT ASSIGNEE(S):	3M Innovative Properties Company, St. Paul, MN, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6111696		20000829
APPLICATION INFO.:	US 1997-807262		19970228 (8)

RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1996-610092, filed on 29 Feb 1996, now patented, Pat. No. US 5825543
DOCUMENT TYPE:	Utility
FILE SEGMENT:	Granted
PRIMARY EXAMINER:	Schuberg, Darren E.
LEGAL REPRESENTATIVE:	Fortkort, John A.
NUMBER OF CLAIMS:	56
EXEMPLARY CLAIM:	1
NUMBER OF DRAWINGS:	27 Drawing Figure(s); 17 Drawing Page(s)
LINE COUNT:	3662

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An optical film is provided which comprises a disperse phase of polymeric particles disposed within a continuous birefringent matrix in combination with light directing materials to enable control of light emitted from a lighting fixture or display. The film is oriented, typically by stretching, in one or more directions. The size and shape

of the disperse phase particles, the volume fraction of the disperse phase, the film thickness, and the amount of orientation are chosen to attain a desired degree of diffuse reflection and total transmission of electromagnetic radiation of a desired wavelength in the resulting film, and the light directing materials are chosen to control the direction of polarized light reflected from or transmitted by the optical film.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 36 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2000:83218 USPATFULL
TITLE: Hand-holdable toy light tube with color changing film
INVENTOR(S): Hanson, Gary B., Hudson, WI, United States
Weber, Michael F., Shoreview, MN, United States
Ouderkirk, Andrew J., Woodbury, MN, United States
PATENT ASSIGNEE(S): 3M Innovative Properties Company, St. Paul, MN, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6082876		20000704	
APPLICATION INFO.:	US 1998-6088		19980113	(9)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: O'Shea, Sandra
ASSISTANT EXAMINER: Honeyman, Marshall
LEGAL REPRESENTATIVE: Allen, Gregory D.
NUMBER OF CLAIMS: 28
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 8 Drawing Figure(s); 5 Drawing Page(s)
LINE COUNT: 1450
AB Hand-holdable toy light tube comprising a handle, a light source and a tube of color shifting film. The light source is preferably disposed within an end of the handle. The tube of color shifting film extends from the end of the handle. During use, light from the light source interacts with the tube of color shifting film, producing a brilliant colored effect. Movement of the handle and thus of the tube of color shifting film produces multiple colors.

L9 ANSWER 37 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2000:54742 USPATFULL
TITLE: Optical film with increased gain at non-normal angles of incidence
INVENTOR(S): Allen, Richard C., Mendota Heights, MN, United States
Carlson, Lockwood W., Stillwater, MN, United States
Ouderkirk, Andrew J., Woodbury, MN, United States
Weber, Michael F., Shoreview, MN, United States
Kotz, Arthur L., White Bear Lake, MN, United States
Nevitt, Timothy J., Red Wing, MN, United States
Stover, Carl A., St. Paul, MN, United States
Majumdar, Biswaroop, Delmar, NY, United States
PATENT ASSIGNEE(S): 3M Innovative Properties Company, St. Paul, MN, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6057961		20000502	
APPLICATION INFO.:	US 1997-807930		19970228	(8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1996-610092, filed			

on 29 Feb 1996, now patented, Pat. No. US 5825543
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Schuberg, Darren E.
LEGAL REPRESENTATIVE: Fortkort, John A.
NUMBER OF CLAIMS: 22
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 16 Drawing Figure(s); 9 Drawing Page(s)
LINE COUNT: 2899
AB An optical film is provided which exhibits increased gain at nonnormal angles of incidence and which comprises a disperse phase of polymeric particles disposed within a continuous birefringent matrix. The film is oriented, typically by stretching, in one or more directions. The size and shape of the disperse phase particles, the volume fraction of the disperse phase, the film thickness, and the amount of orientation are chosen to attain a desired degree of diffuse reflection and total transmission of electromagnetic radiation of a desired wavelength in the resulting film.

L9 ANSWER 38 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2000:50045 USPATFULL
TITLE: Toy having image mode and changed image mode
INVENTOR(S): Whitney, Leland R., St. Paul, MN, United States
Allen, Gregory D., Woodbury, MN, United States
PATENT ASSIGNEE(S): 3M Innovative Properties Company, St. Paul, MN, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6053795		20000425
APPLICATION INFO.:	US 1998-6580		19980113 (9)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Muir, D Neal
LEGAL REPRESENTATIVE: Allen, Gregory D.
NUMBER OF CLAIMS: 39
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 11 Drawing Figure(s); 6 Drawing Page(s)
LINE COUNT: 1122
AB A toy or novelty article including an image located thereon, having a reflective "mirror" mode and a transmissive mode, such that a generally opaque material is viewable in the transmissive mode. One preferred embodiment includes a generally opaque material, a first polarizer and a second polarizer. In another aspect, a preferred embodiment, in a first orientation, the first and second polarizers interact to be reflective, and in a second orientation, the first and second polarizers are collectively translucent such that the generally opaque material is viewable therethrough.

L9 ANSWER 39 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2000:3987 USPATFULL
TITLE: Lighted hand-holdable novelty article
INVENTOR(S): Weber, Michael F., St. Paul, MN, United States
Whitney, Leland R., St. Paul, MN, United States
Benson, Jr., Olester, Woodbury, MN, United States
PATENT ASSIGNEE(S): 3M Innovative Properties Compnay, St. Paul, MN, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6012820		20000111
APPLICATION INFO.:	US 1998-6294		19980113 (9)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Sember, Thomas M.
LEGAL REPRESENTATIVE: Allen, Gregory D.
NUMBER OF CLAIMS: 32
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 11 Drawing Figure(s); 5 Drawing Page(s)
LINE COUNT: 1407

AB Hand-holdable novelty article comprising a handle, a light source and a plurality of sections of color shifting film. The light source is preferably disposed within an end of the handle. The plurality of sections of color shifting film extend from the end of the handle. During use, light from the light source interacts with the plurality of strands of color shifting film, producing a brilliant colored effect. Movement of the plurality of sections of color shifting film produces multiple colors.

L9 ANSWER 40 OF 53 USPATFULL on STN
ACCESSION NUMBER: 1999:160933 USPATFULL
TITLE: Toy mirror with transmissive image mode
INVENTOR(S): Whitney, Leland R., St. Paul, MN, United States
PATENT ASSIGNEE(S): 3M Innovative Properties Company, St. Paul, MN, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5999317		19991207
APPLICATION INFO.:	US 1998-6326		19980113 (9)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Spyrou, Cassandra
ASSISTANT EXAMINER: Juba, Jr., John
LEGAL REPRESENTATIVE: Allen, Gregory D.
NUMBER OF CLAIMS: 34
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 15 Drawing Figure(s); 8 Drawing Page(s)
LINE COUNT: 1024

AB Toy or novelty including a first polarizer and a second polarizer movable relative to the first polarizer. In a first mode, the first and second polarizers interact to be reflective, and in a second mode, the first and second polarizers is transmissive. The toy may further include an object or image located adjacent the second polarizer, wherein the object or image is viewable through the first and second polarizers in the second mode.

L9 ANSWER 41 OF 53 USPAT2 on STN
ACCESSION NUMBER: 2006:181643 USPAT2
TITLE: Olefinic thermoplastic elastomer sheet, process for production thereof, and laminates
INVENTOR(S): Kanae, Kentarou, Tokyo, JAPAN
Hayakawa, Toshiyuki, Tokyo, JAPAN
Tanaka, Minoru, Tokyo, JAPAN
Morikawa, Akihiko, Tokyo, JAPAN
PATENT ASSIGNEE(S): JSR Corporation, Tokyo, JAPAN (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 7163983	B2	20070116	
	WO 2004060937		20040722	
APPLICATION INFO.:	US 2003-540568		20031224	(10)
	WO 2003-JP16630		20031224	
			20050624	PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	JP 2002-379677	20021227

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Teskin, Fred
LEGAL REPRESENTATIVE: Oblon, Spivak, McClelland, Maier & Neustadt, P.C.
NUMBER OF CLAIMS: 12
EXEMPLARY CLAIM: 1
LINE COUNT: 1086
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An olefin thermoplastic elastomer sheet which has the same or similar rubber elasticity, flexibility and molding and processability as those of the conventional olefin thermoplastic elastomer sheets, and is good in mechanical properties and excellent in mar resistance in particular, and a production process thereof, and a laminate having a surface layer composed of this sheet. The olefin thermoplastic elastomer sheet according to the present invention is composed of an elastomer material comprising an olefin random copolymer formed by copolymerizing ethylene, an α-olefin having 3 to 10 carbon atoms and an unsaturated monomer having a functional group, and optionally a non-conjugated diene, and metal ions crosslinking the olefin random copolymer.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 42 OF 53 USPAT2 on STN
ACCESSION NUMBER: 2005:118464 USPAT2
TITLE: Fibers made from block copolymer
INVENTOR(S): Webb, Steven P., Midland, MI, UNITED STATES
Austin, Jared A., Greer, SC, UNITED STATES
Baltes, Thomas, Hannover, GERMANY, FEDERAL REPUBLIC OF
Toney, Kenneth A., Baton Rouge, LA, UNITED STATES
PATENT ASSIGNEE(S): Advanced Design Concepts GmbH, Hannover, GERMANY, FEDERAL REPUBLIC OF (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 7309522	B2	20071218	
APPLICATION INFO.:	US 2004-887467		20040708	(10)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2003-485841P	20030709 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Mullis, Jeffrey
LEGAL REPRESENTATIVE: O'Keefe, Egan, Peterman & Enders, LLP
NUMBER OF CLAIMS: 23
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 13 Drawing Figure(s); 11 Drawing Page(s)
LINE COUNT: 1876

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to compositions such as fibers, elastic yarns, wovens, nonwovens, knitted fabrics, fine nets, and articles produced at least in part from a styrenic block copolymer comprising at least two blocks produced from vinyl aromatic monomers and at least one block produced from alkyl-substituted, conjugated alkene monomers, where the block produced from the conjugated alkene may have sufficient substitution so as to prevent or significantly minimize thermal cross-linking of the residual unsaturation in the formed block during fiber formation. Additionally, the composition may be described as processable, without requiring any additives if, for example, the order-disorder-transition (ODT) temperature is less than about 280° C.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 43 OF 53 USPAT2 on STN

ACCESSION NUMBER:	2005:112351 USPAT2			
TITLE:	Molding for automobile			
INVENTOR(S):	Kanae, Kentarou, Yokkaich, JAPAN Hayakawa, Toshiyuki, Yokkaichi, JAPAN Tanaka, Minoru, Yokkaichi, JAPAN Morikawa, Akihiko, Yokkaichi, JAPAN			
PATENT ASSIGNEE(S):	JSR Corporation, Tokyo, JAPAN (non-U.S. corporation)			
	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6982302	B2	20060103	
	WO 2004060992		20040722	
APPLICATION INFO.:	US 2003-505882		20031224	(10)
	WO 2003-JP16631		20031224 20040903	PCT 371 date
	NUMBER		DATE	
PRIORITY INFORMATION:	JP 2002-379678		20021227	
DOCUMENT TYPE:	Utility			
FILE SEGMENT:	GRANTED			
PRIMARY EXAMINER:	Teskin, Fred			
LEGAL REPRESENTATIVE:	Oblon, Spivak, McClelland, Maier & Neustadt, P.C.			
NUMBER OF CLAIMS:	16			
EXEMPLARY CLAIM:	1			
LINE COUNT:	953			

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An automotive molding, which is excellent in scratching resistance, has high gloss, and is excellent in weathering resistance. The automotive molding of the invention has a part composed of an elastomer material containing an olefinic random copolymer obtained by copolymerizing ethylene, an α-olefin having 3 to 10 carbon atoms and an unsaturated monomer having a functional group, and optionally a non-conjugated diene, and a metal ion for crosslinking the olefinic random copolymer.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 44 OF 53 USPAT2 on STN

ACCESSION NUMBER:	2005:92658 USPAT2
TITLE:	Red-green-blue polymeric interference film
INVENTOR(S):	Wheatley, John A., Lake Elmo, MN, UNITED STATES Ouderkirk, Andrew J., Woodbury, MN, UNITED STATES

	Nevitt, Timothy J., Red Wing, MN, UNITED STATES Weber, Michael F., Shoreview, MN, UNITED STATES
PATENT ASSIGNEE(S):	3MInnovative Properties Company, St. Paul, MN, UNITED STATES (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 7138173	B2	20061121
APPLICATION INFO.:	US 2004-952335		20040927 (10)

RELATED APPLN. INFO.:	Continuation of Ser. No. US 2002-188175, filed on 1 Jul 2002, Pat. No. US 6797366 Continuation of Ser. No. US 1998-6591, filed on 13 Jan 1998, Pat. No. US 6531230
DOCUMENT TYPE:	Utility
FILE SEGMENT:	GRANTED
PRIMARY EXAMINER:	Dye, Rena
ASSISTANT EXAMINER:	Ferguson, Lawrence
LEGAL REPRESENTATIVE:	Higgins, Milena G.
NUMBER OF CLAIMS:	18
EXEMPLARY CLAIM:	1
NUMBER OF DRAWINGS:	49 Drawing Figure(s); 28 Drawing Page(s)
LINE COUNT:	6279

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Multilayer polymeric films and other optical bodies are provided which is useful in making colored mirrors and polarizers. The films are characterized by a change in color as a function of viewing angle.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 45 OF 53 USPAT2 on STN

ACCESSION NUMBER:	2004:134014 USPAT2
TITLE:	Resin composition for wire and cable covering material
INVENTOR(S):	Sato, Sho, Utsunomiya, JAPAN Kubo, Hiroshi, Moka, JAPAN
PATENT ASSIGNEE(S):	Sabic Innovative Plastics IP B.V., NETHERLANDS (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 7524894	B2	20090428
APPLICATION INFO.:	US 2003-714428		20031113 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	JP 2002-2678010	20021114

DOCUMENT TYPE:	Utility
FILE SEGMENT:	GRANTED
PRIMARY EXAMINER:	Egwim, Kelechi C
LEGAL REPRESENTATIVE:	Cantor Colburn LLP
NUMBER OF CLAIMS:	22
EXEMPLARY CLAIM:	1
LINE COUNT:	637

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A flexible resin composition comprises poly(arylene ether) resin, syndiotactic polystyrene, olefin elastomer, hydrogenated styrene-butadiene copolymer, and a non-halogen fire retardant.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 46 OF 53 USPAT2 on STN

ACCESSION NUMBER:	2004:77296 USPAT2

TITLE: Styrene copolymer
INVENTOR(S): Lee, Kwanyoung, Daejeon, KOREA, REPUBLIC OF
Choi, Namsun, Daejeon, KOREA, REPUBLIC OF
PATENT ASSIGNEE(S): Korea Kumho Petrochemical Co., Ltd., Seoul, KOREA, REPUBLIC OF (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6756448	B2	20040629
APPLICATION INFO.:	US 2003-439544		20030515 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	KR 2002-57290	20020919

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Teskin, Fred
LEGAL REPRESENTATIVE: Squire, Sanders & Dempsey L.L.P.
NUMBER OF CLAIMS: 25
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 0 Drawing Figure(s); 0 Drawing Page(s)
LINE COUNT: 734
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to a styrene copolymer and the method of preparing the same through the steps described in the following:

a step of making a living polymer with an active anion by polymerizing an anionically polymerizable monomer in a non polar solvent in the presence of alkyllithum catalyst;

a step of preparing a macro monomer by reacting the abovementioned living polymer with a terminal modifier represented by the structure of formula 1; and

a step of copolymerizing the above macro monomer with styrene monomer with transition catalyst and co-catalyst.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 47 OF 53 USPAT2 on STN
ACCESSION NUMBER: 2003:51015 USPAT2
TITLE: Color shifting film articles
INVENTOR(S): Hanson, Gary B., Hudson, WI, United States
Jonza, James M., Woodbury, MN, United States
Ouderkirk, Andrew J., Woodbury, MN, United States
Wheatley, John A., Lake Elmo, MN, United States
PATENT ASSIGNEE(S): 3M Innovative Properties Company, St. Paul, MN, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6797366	B2	20040928
APPLICATION INFO.:	US 2002-188175		20020701 (10)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1998-6591, filed on 13 Jan 1998, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Chen, Vivian
LEGAL REPRESENTATIVE: Jensen, Stephen C.
NUMBER OF CLAIMS: 17

EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 49 Drawing Figure(s); 28 Drawing Page(s)
LINE COUNT: 6266
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Multilayer polymeric films and other optical bodies are provided which is useful in making colored mirrors and polarizers. The films are characterized by a change in color as a function of viewing angle.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 48 OF 53 USPAT2 on STN
ACCESSION NUMBER: 2002:16097 USPAT2
TITLE: Hand-holdable toy light tube
INVENTOR(S): Hanson, Gary B., Hudson, WI, United States
Weber, Michael F., Shoreview, MN, United States
Ouderkirk, Andrew J., Woodbury, MN, United States
PATENT ASSIGNEE(S): 3M Innovative Properties Company, Saint Paul, MN, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6641280	B2	20031104
APPLICATION INFO.:	US 2001-963304		20010926 (9)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1999-408473, filed on 28 Sep 1999, now abandoned Continuation of Ser. No. US 1998-6088, filed on 13 Jan 1998, now patented, Pat. No. US 6082876
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: O'Shea, Sandra
ASSISTANT EXAMINER: Neils, Peggy A
LEGAL REPRESENTATIVE: Jensen, Stephen C.
NUMBER OF CLAIMS: 25
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 10 Drawing Figure(s); 5 Drawing Page(s)
LINE COUNT: 1420
AB Hand-holdable toy light tube comprising a handle, a light source and a tube of color shifting film. The light source is preferably disposed within an end of the handle. The tube of color shifting film extends from the end of the handle. During use, light from the light source interacts with the tube of color shifting film, producing a brilliant colored effect. Movement of the handle and thus of the tube of color shifting film produces multiple colors.

L9 ANSWER 49 OF 53 USPAT2 on STN
ACCESSION NUMBER: 2001:160714 USPAT2
TITLE: Apparatus for making multilayer optical films
INVENTOR(S): Neavin, Terence D., St. Paul, MN, United States
Ouderkirk, Andrew J., Woodbury, MN, United States
Biegler, Robert M., Woodbury, MN, United States
Liu, Yaoqi J., Maplewood, MN, United States
PATENT ASSIGNEE(S): 3M Innovative Properties Company, St. Paul, MN, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6783349	B2	20040831
APPLICATION INFO.:	US 2001-811200		20010316 (9)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1999-229724, filed on 13

Jan 1999, now abandoned Continuation-in-part of Ser. No. US 1998-6288, filed on 13 Jan 1998, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Davis, Robert
ASSISTANT EXAMINER: Del Sole, Joseph S.
LEGAL REPRESENTATIVE: Jensen, Stephen C.
NUMBER OF CLAIMS: 18
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 4 Drawing Figure(s); 4 Drawing Page(s)
LINE COUNT: 3054
AB Methods and apparatuses are provided for the manufacture of coextruded polymeric multilayer optical films. The multilayer optical films have an ordered arrangement of layers of two or more materials having particular layer thicknesses and a prescribed layer thickness gradient throughout the multilayer optical stack. The methods and apparatuses described allow improved control over individual layer thicknesses, layer thickness gradients, indices of refraction, interlayer adhesion, and surface characteristics of the optical films. The methods and apparatuses described are useful for making interference polarizers, mirrors, and colored films that are optically effective over diverse portions of the ultraviolet, visible, and infrared spectra.

L9 ANSWER 50 OF 53 USPAT2 on STN
ACCESSION NUMBER: 2001:149737 USPAT2
TITLE: Method for making coPEN/PMMA multilayer optical films
INVENTOR(S): Hebrink, Timothy J., Oakdale, MN, United States
Liu, Yaoqi J., Maplewood, MN, United States
Merrill, William Ward, White Bear Lake, MN, United States
Nerad, Bruce A., Oakdale, MN, United States
Wheatley, John A., Lake Elmo, MN, United States
PATENT ASSIGNEE(S): 3M Innovative Properties Company, St. Paul, MN, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6830713	B2	20041214
APPLICATION INFO.:	US 2001-810743		20010316 (9)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1999-229724, filed on 13 Jan 1999, now abandoned Continuation-in-part of Ser. No. US 1998-6288, filed on 13 Jan 1998, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Vargot, Mathieu D.
LEGAL REPRESENTATIVE: Higgins, Milena G., Jensen, Stephen C.
NUMBER OF CLAIMS: 8
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 4 Drawing Figure(s); 4 Drawing Page(s)
LINE COUNT: 3004
AB Methods and apparatuses are provided for the manufacture of coextruded polymeric multilayer optical films. The multilayer optical films have an ordered arrangement of layers of two or more materials having particular layer thicknesses and a prescribed layer thickness gradient throughout the multilayer optical stack. The methods and apparatuses described allow improved control over individual layer thicknesses, layer thickness gradients, indices of refraction, interlayer adhesion, and surface characteristics of the optical films. The methods and apparatuses described are useful for making interference polarizers,

mirrors, and colored films that are optically effective over diverse portions of the ultraviolet, visible, and infrared spectra.

L9 ANSWER 51 OF 53 USPAT2 on STN
ACCESSION NUMBER: 2001:133219 USPAT2
TITLE: Method for making multilayer optical films
INVENTOR(S): Neavin, Terence D., St. Paul, MN, United States
Ouderkirk, Andrew J., Woodbury, MN, United States
Liu, Yaoqi J., Maplewood, MN, United States
PATENT ASSIGNEE(S): 3M Innovative Properties Company, St. Paul, MN, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6827886	B2	20041207
APPLICATION INFO.:	US 2001-810916		20010316 (9)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1999-229724, filed on 13 Jan 1999, now abandoned Continuation-in-part of Ser. No. US 1998-6288, filed on 13 Jan 1998, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Vargot, Mathieu D.
LEGAL REPRESENTATIVE: Higgins, Milena G., Jensen, Stephen C.
NUMBER OF CLAIMS: 9
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 4 Drawing Figure(s); 4 Drawing Page(s)
LINE COUNT: 2998
AB Methods and apparatuses are provided for the manufacture of coextruded polymeric multilayer optical films. The multilayer optical films have an ordered arrangement of layers of two or more materials having particular layer thicknesses and a prescribed layer thickness gradient throughout the multilayer optical stack. The methods and apparatuses described allow improved control over individual layer thicknesses, layer thickness gradients, indices of refraction, interlayer adhesion, and surface characteristics of the optical films. The methods and apparatuses described are useful for making interference polarizers, mirrors, and colored films that are optically effective over diverse portions of the ultraviolet, visible, and infrared spectra.

L9 ANSWER 52 OF 53 USPAT2 on STN
ACCESSION NUMBER: 2001:127792 USPAT2
TITLE: Method for making texture multilayer optical films
INVENTOR(S): Stover, Carl A., St. Paul, MN, United States
PATENT ASSIGNEE(S): 3M Innovative Properties Company, St. Paul, MN, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6808658	B2	20041026
APPLICATION INFO.:	US 2001-809551		20010315 (9)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1999-229724, filed on 13 Jan 1999, now abandoned Continuation-in-part of Ser. No. US 1998-6288, filed on 13 Jan 1998, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Vargot, Mathieu D.
LEGAL REPRESENTATIVE: Jensen, Stephen C.
NUMBER OF CLAIMS: 7

EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 4 Drawing Figure(s); 4 Drawing Page(s)
LINE COUNT: 3003
AB Methods and apparatuses are provided for the manufacture of coextruded polymeric multilayer optical films. The multilayer optical films have an ordered arrangement of layers of two or more materials having particular layer thicknesses and a prescribed layer thickness gradient throughout the multilayer optical stack. The methods and apparatuses described allow improved control over individual layer thicknesses, layer thickness gradients, indices of refraction, interlayer adhesion, and surface characteristics of the optical films. The methods and apparatuses described are useful for making interference polarizers, mirrors, and colored films that are optically effective over diverse portions of the ultraviolet, visible, and infrared spectra.

L9 ANSWER 53 OF 53 CAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 1998:392407 CAPLUS
DOCUMENT NUMBER: 129:109865
ORIGINAL REFERENCE NO.: 129:22563a,22566a
TITLE: Syndiotactic styrene polymer-elastomer block copolymer microporous moldings and their manufacture
INVENTOR(S): Matsuse, Takahiro; Toyozawa, Shinichi
PATENT ASSIGNEE(S): Bridgestone Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10158429	A	19980616	JP 1996-339052	19961204
PRIORITY APPLN. INFO.:			JP 1996-339052	19961204

AB The title moldings, with average diameter of skeleton <10 μm and average cell diameter <80 μm, useful for highly functional porous articles, semipermeable membranes, etc. (no data), are prepared by mixing 1-80% syndiotactic poly(vinyl aromatic hydrocarbon) block (e.g., polymer of styrene, α-methylstyrene, or p-methylstyrene), 20-99% rubber block (e.g., butadiene rubber, SBR, isoprene-styrene rubber, butadiene-isoprene-styrene rubber), with low-mol.-weight compds. (e.g., softeners, plasticizers, tackifiers, oligomers, lubricants with mol. weight <20,000), then removing the low-mol.-weight compds.

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L9 ANSWER 49 OF 53 USPAT2 on STN
ACCESSION NUMBER: 2001:160714 USPAT2
TITLE: Apparatus for making multilayer optical films
INVENTOR(S): Neavin, Terence D., St. Paul, MN, United States
Ouderkirk, Andrew J., Woodbury, MN, United States
Biegler, Robert M., Woodbury, MN, United States
Liu, Yaoqi J., Maplewood, MN, United States
PATENT ASSIGNEE(S): 3M Innovative Properties Company, St. Paul, MN, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6783349	B2	20040831
APPLICATION INFO.:	US 2001-811200		20010316 (9)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1999-229724, filed on 13 Jan 1999, now abandoned Continuation-in-part of Ser. No. US 1998-6288, filed on 13 Jan 1998, now abandoned

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Davis, Robert
ASSISTANT EXAMINER: Del Sole, Joseph S.
LEGAL REPRESENTATIVE: Jensen, Stephen C.
NUMBER OF CLAIMS: 18
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 4 Drawing Figure(s); 4 Drawing Page(s)
LINE COUNT: 3054

DETD The syndiotactic vinyl aromatic copolymers of the present invention may be block copolymers, random copolymers, or alternating copolymers.

DETD The films and other optical devices made in accordance with the invention may also be provided with one or more adhesives to laminate the optical films and devices of the present invention to another film, surface, or substrate. Such adhesives include both optically clear and diffuse adhesives, as well as pressure sensitive and non-pressure sensitive adhesives. Pressure sensitive adhesives are normally tacky at room temperature and can be adhered to a surface by application of, at most, light finger pressure, while non-pressure sensitive adhesives include solvent, heat, or radiation activated adhesive systems. Examples of adhesives useful in the present invention include those based on general compositions of polyacrylate; polyvinyl ether, diene -containing rubbers such as natural rubber, polyisoprene, and polyisobutylene; polychloroprene; butyl rubber; butadiene -acrylonitrile polymers; thermoplastic elastomers; block copolymers such as styrene-isoprene and styrene-isoprene-styrene block copolymers, ethylene-propylene-diene polymers, and styrene-butadiene polymers; polyalphaolefins; amorphous polyolefins; silicone; ethylene-containing copolymers such as ethylene vinyl acetate, ethylacrylate, and ethylmethacrylate; polyurethanes; polyamides; polyesters; epoxies; polyvinylpyrrolidone and vinylpyrrolidone copolymers; and mixtures of the above. Additionally, the adhesives can contain additives such as tackifiers, plasticizers, fillers, antioxidants, stabilizers, pigments, diffusing particles, curatives, and solvents. In some applications, as where the optical films of the present invention are to be used as a component in adhesive tapes, it may be desirable to treat the films with low adhesion backsize (LAB) coatings or films such as those based on urethane, silicone or fluorocarbon chemistry. Films treated in this manner will exhibit proper release properties towards pressure sensitive adhesives (PSAs), thereby enabling them to be treated with adhesive and wound into rolls Adhesive tapes, sheets, or die-cuts made in this manner can be used for decorative purposes or in any application where a diffusely reflective or transmissive surface on the tape is desirable. When a laminating adhesive is used to adhere an optical film of the present invention to another surface, the adhesive composition and thickness are preferably selected so as not to interfere with the optical properties of the optical film. For example, when laminating additional layers to an optical polarizer or mirror wherein a high degree of transmission is desired, the laminating adhesive should be optically clear in the wavelength region that the polarizer or mirror is designed to be

transparent in.

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L9 ANSWER 46 OF 53 USPAT2 on STN

ACCESSION NUMBER:	2004:77296 USPAT2
TITLE:	Styrene copolymer
INVENTOR(S):	Lee, Kwanyoung, Daejeon, KOREA, REPUBLIC OF Choi, Namsun, Daejeon, KOREA, REPUBLIC OF
PATENT ASSIGNEE(S):	Korea Kumho Petrochemical Co., Ltd., Seoul, KOREA, REPUBLIC OF (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6756448	B2	20040629	
APPLICATION INFO.:	US 2003-439544		20030515	(10)

	NUMBER	DATE
PRIORITY INFORMATION:	KR 2002-57290	20020919

DOCUMENT TYPE:	Utility
FILE SEGMENT:	GRANTED
PRIMARY EXAMINER:	Teskin, Fred
LEGAL REPRESENTATIVE:	Squire, Sanders & Dempsey L.L.P.
NUMBER OF CLAIMS:	25
EXEMPLARY CLAIM:	1
NUMBER OF DRAWINGS:	0 Drawing Figure(s); 0 Drawing Page(s)
LINE COUNT:	734

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

SUMM Several remedies have been introduced in order to improve impact resistance or impart elasticity to the syndiotactic polystyrene. U.S. Pat. No. 5,247,020, presents the method of blending syndiotactic polystyrene with elastomer during the polymerization process. The method suggests syndiotactic polymerization of styrene in the presence of elastomers such as styrene-butadiene block copolymer, or styrene-isoprene block copolymer.

SUMM Also, in order to solve the problem, presented are the methods of random or block copolymerization with other monomers. In U.S. Pat. No. 5,475,061 and U.S. Pat. No. 5,554,695, syndiotactic copolymerization with acryl monomer is presented. U.S. Pat. No. 5,260,394 describes random copolymer of syndiotactic polystyrene obtained by copolymerization with olefins such as ethylene and propylene or conjugated dienes such as butadiene and isoprene. The syndiotactic copolymers obtained by these methods have low glass transition temperatures, exhibiting enhanced processability and elasticity. U.S. Pat. No. 6,271,313 presents the syndiotactic polystyrene block copolymer prepared from styrene and butadiene monomer. But the activity of catalyst of the polymerization decreased in the presence of butadiene and both of low yield and low content of polybutadiene was resulted.

DETD Anionically polymerizable monomer of the present invention includes vinyl aromatic monomers such as styrene and p-methylstyrene, acryl monomers such as methyl acrylate, ethyl acrylate and methyl methacrylate, and conjugated dienes such as 1,3-butadiene and isoprene. Preferably one or more

monomers are selected from the group consisting of styrene, 1,3-butadiene and isoprene. When one anionically polymerizable monomer is used, the resulted polymer is homo polymer and two or more anionically polymerizable monomers are selected, block copolymer or random copolymer is made. In order to prepare block copolymer, the anionically polymerizable monomers are added in sequence, completing the polymerization of monomer at each step. The living polymers prepared as a block copolymer of the present invention include [polystyrene]-[polybutadiene anion], [polybutadiene]-[polystyrene anion], [polyisoprene]-[polystyrene anion], [polystyrene]-[polyisoprene anion].

DETD The molecular weight of the living polymer with anionic activity is 500-200,000 for homopolymer, 500-200,000 for random copolymer and 500-200,000 for block copolymer. The content of butadiene or isoprene in the living polymer is 10-90 weight %.

DETD All the chemicals used were distilled and kept under argon atmosphere. The atmosphere in a 2L reactor was replaced by argon gas. Into the reactor, added were 200 g of distilled cyclohexane and 10 g (96 mmol) of styrene and the temperature was maintained at 45° C. The initiator, 4 mL (5.2 mmol) of sec-butyllithium (BuLi) in cyclohexane solution (1.3M conc.) was added and the reaction was continued for 40 minutes. 40 g (0.74 mol) of butadiene was added and the reaction was run for 1 hour before the addition of 1.1 g (6 mmol) of p-chlorodimethylsilylstryene, the terminal modifier, which was dissolved in 5 mL cyclohexane. The reaction with the terminal modifier was run for 1 hour. The reaction was terminated by adding a few drops of degassed methanol. The product, macromonomer was filtered, washed several times with methanol, and the solvent was evaporated to obtain viscous oil. The synthesized polystyrene-block-polybutadiene macromonomer was stored in the dry-box freezer filled with argon gas. The structure of polystyrene-block-polybutadiene was determined by 1H-NMR.

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L9 ANSWER 42 OF 53 USPAT2 on STN

ACCESSION NUMBER:	2005:118464 USPAT2		
TITLE:	Fibers made from block copolymer		
INVENTOR(S):	Webb, Steven P., Midland, MI, UNITED STATES Austin, Jared A., Greer, SC, UNITED STATES Baltes, Thomas, Hannover, GERMANY, FEDERAL REPUBLIC OF Toney, Kenneth A., Baton Rouge, LA, UNITED STATES		
PATENT ASSIGNEE(S):	Advanced Design Concepts GmbH, Hannover, GERMANY, FEDERAL REPUBLIC OF (non-U.S. corporation)		
	NUMBER	KIND	DATE
PATENT INFORMATION:	US 7309522	B2	20071218
APPLICATION INFO.:	US 2004-887467		20040708 (10)
	NUMBER		DATE
PRIORITY INFORMATION:	US 2003-485841P		20030709 (60)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	GRANTED		
PRIMARY EXAMINER:	Mullis, Jeffrey		
LEGAL REPRESENTATIVE:	O'Keefe, Egan, Peterman & Enders, LLP		
NUMBER OF CLAIMS:	23		
EXEMPLARY CLAIM:	1		

NUMBER OF DRAWINGS: 13 Drawing Figure(s); 11 Drawing Page(s)
LINE COUNT: 1876
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

SUMM Block polymers, especially styrenic block copolymers (SBCs), generally are elastomeric materials that exhibit excellent solid-state elastic performance attributes. But the most common unsaturated block copolymers, styrene-butadiene-styrene triblock polymers (SBS), tend to exhibit mediocre thermal stability, especially in the molten state. In addition, SBS polymers readily form gels due to cross-linking at temperatures necessary to pass these materials through the fine holes of textile or nonwoven dies at commercial rates or draw-downs. Furthermore, drawing of SBS polymers as fibers at temperatures below their cross-linking temperature cannot be done at commercially viable levels due to ductile or melt fracture of the fiber.

SUMM One aspect of the present invention is a fiber produced from a composition comprising a copolymer that comprises at least two blocks produced from vinyl aromatic monomers and at least one block produced from conjugated alkene monomers. The copolymer includes a conjugated alkene block such that thermal cross-linking does not take place significantly at the processing temperature, usually between 200° and 280° C. It should be appreciated that by saying "no thermal cross-linking takes place"; it is meant that no appreciable cross-linking occurs that deleteriously affects processing. While not wishing to be bound by theory, it is believed that cross-linking is reduced in the soft block by limiting the amount of vinyl content (1,2 and/or 3,4 bonding in isoprene polymerization, for example) and/or by arrangements of the cis/trans unsaturation and/or by including steric groups to hinder the cross-linking reaction.

SUMM Surprisingly, it has been discovered that block copolymers having non-hydrogenated soft blocks (blocks originating from the conjugated alkene monomers) with sterically hindered chains, even though unsaturated, can be successfully melt drawn, including meltspun into fine denier fibers, where the comparative block polymer without sterically hindered chains (for example, butadiene blocks in SBS triblock copolymers) cannot be melt drawn nor melt spun into fibers. In one embodiment the fiber has a diameter of less than about 450 microns. In other embodiments, the fiber may have a diameter less than about 400 microns, less than about 200 microns, or less than 100 microns. This discovery is believed to be attributable to the surprising low shear melt viscosities of these block copolymers at processing temperatures (usually more than 30° C. above their ODTs). While not wishing to be bound by theory, the benefit of SIS-like polymers is also believed to be derived from their propensity to degrade by chain scission rather than cross-linking at high temperature. Chain scission is less of a detriment than cross-linking and at low levels may be an advantage to spinning. The higher temperature processing capability is most critical as it allows the polymer to be melted to an amorphous (disordered) state above the ODT onset. Materials which have residual order tend to form fibers that fail (break) ductilely when drawn at high velocities (>300 m/min). Comparatively, polymeric block materials, such as SBS, with similar molecular weights, exhibit significant cross-linking which fouls fiber spinning at the necessary processing temperatures or, if processed at temperatures below the onset of cross-linking, result in a melt with poor drawability and cannot be spun as fine fibers. In addition, it is well known that common hydrogenated species of this type (hydrogenated

SBS produces a block copolymer known as SEBS), even though they do not suffer cross-linking, cannot readily be drawn as fibers without extensive use of additives.

SUMM In view of the foregoing, it should be appreciated that in one broad respect, this invention is a fiber produced from a composition comprising 50 to 100 weight % of one or more block copolymer, wherein at least one of the non-hydrogenated block copolymers has at least two blocks produced from vinyl aromatic monomers and at least one block produced from alkyl-substituted (e.g., the alkyl being from one to ten carbons) conjugated alkene monomers, wherein the composition has an order/disorder transition (ODT) onset of less than 280° C., and neither the shear modulus, G', nor loss modulus, G", monotonically increase with temperature in the range from the ODT, or 150° C. in the absence of an ODT, to 280° C. In this respect, the fiber can have a composition that comprises up to 50% of a processing additive; the processing additive can be a fluorocarbon, a polyolefin, a mineral oil, a polysiloxane fluid, a tackifier, a wax, or combination thereof; the composition may include up to 5% of an additive to mitigate degradation of the fiber's properties, an additive to add color, luster, deluster, or filling, anti-block additive, a slip agent, or combination thereof; the block copolymer can be a triblock having two vinyl aromatic monomer unit blocks and one alkyl-substituted, conjugated alkene monomer unit block; the block copolymer can be a pentablock having three vinyl aromatic monomer unit blocks and two alkyl-substituted, conjugated alkene monomer unit blocks ; the conjugated alkene monomer can be isoprene; the conjugated alkene monomer can be of formula R.sub.2C.dbd.CR--CR.dbd.CR.sub.2, wherein the monomer has at least five carbons, and wherein each R, independently in each occurrence, is hydrogen or alkyl of from one to four carbons or any two R may form a ring; at least one of the vinyl aromatic monomers can be styrene; the fiber can have a diameter less than 400 microns; the fiber can be in the form of a conjugate fiber; the fiber can be in the form of a conjugate fiber which has a sheath/core or tipped multilobal (e.g., trilobal) cross section; the fiber can be in the form of a conjugate fiber, which has a sheath core or tipped multilobal (e.g., trilobal) cross section, wherein the sheath or the tip component is a polyolefin; the core comprises a styrene-isoprene-styrene triblock or higher copolymer; the core comprises a styrene-isoprene-styrene-isoprene-styrene pentablock or higher copolymer; or any combination thereof. The fiber can be used to form a woven or knitted fabric, yarn, filament, strand, or fine net. The fiber can be used to form a nonwoven, including a nonwoven wherein the nonwoven is spunlaid, or is meltblown, or any combinations thereof, wherein the fiber is a conjugate fiber, said conjugate fiber comprising the block copolymer and at least one polyolefin component, wherein said polyolefin component at least partially envelops the block copolymer, wherein the fibers are normally bonded at a temperature substantially below the bonding temperature of the polyolefin component, wherein the polyolefin is polyethylene and the normal bonding temperature is about 120-130° C., wherein the polyolefin is polypropylene and the normal bonding temperature is about 140° C., wherein the fiber is formed by extruding at a temperature above the ODT, wherein the fiber is extruded at a temperature at least 10° C. above the ODT, wherein the fiber is extruded at a temperature at least 50° C. above the ODT; or any combination thereof. The fiber can be drawn at a velocity of 300 m/min or greater. The fiber or nonwoven can be used to form a laminate wherein at least one layer comprises the fibers or fabrics

disclosed herein. The fibers can be used to form an article, including an article such as a disposable diaper, an elastic tab, a waist band, a leg cuff, a standing leg cuff, a side panel, an incontinent garment, a medical garment, a bandage or a textile apparel. The fiber or nonwoven can be produced by melt blowing, by a spunbond process, or by a combination thereof. The fiber can be made from other than the block copolymer. In the fiber, the block copolymer can be a styrene-isoprene block copolymer having a number average molecular weight styrene content per block of the block copolymer in the range from about 6,000 to about 45,000 grams/mole and/or having a number average molecular weight isoprene content per block of the block copolymer in the range from about 20,000 to about 150,000 grams/mole, with the total weight of styrene used-to make the block copolymer being 50% or less by weight.

SUMM In another broad respect, this invention is a fiber produced from a composition comprising 50% to 100% by weight of one or more block copolymers, wherein at least one block copolymer has at least two blocks produced from a vinyl aromatic monomer having up to 20 carbons and from a conjugated alkene monomer of formula: R.sub.2C.dbd.CR--CR.dbd.CR.sub.2 wherein each R, independently in each occurrence, is hydrogen, or alkyl of one to four carbons, or any two R join to form a ring, wherein the conjugated alkene monomer has at least five carbons and no more than 20 carbons. Preferably at least one R is alkyl, such as of from one to ten carbons. In this process, the composition may comprise up to 50% of a processing additive; the processing additive can be a fluorocarbon, a polyolefin, a mineral oil, a polysiloxane fluid, a tackifier, a wax, or combination thereof; the composition can include up to 5% of an additive to mitigate degradation of the fiber's properties; an additive to add color, luster, deluster, or filling; anti-block additive; a slip agent; or combination thereof; the block copolymer can be a triblock having two vinyl aromatic monomer unit blocks and one alkyl-substituted, conjugated alkene monomer unit block; the block copolymer can be a pentablock having two vinyl aromatic monomer unit blocks and two alkyl-substituted, conjugated alkene monomer unit blocks; the conjugated alkene monomer can be isoprene; at least one of the vinyl aromatic monomers can be styrene; the fiber can have a diameter less than 400 microns; the fiber can be in the form of a conjugate fiber; the can be in the form of a conjugate fiber which has a sheath core or tipped multilobal (e.g., trilobal) cross section; the fiber can be in the form of a conjugate fiber, which has a sheath core or tipped multilobal (e.g., trilobal) cross section, wherein the sheath or the tip component is a polyolefin; the core can comprise an styrene-isoprene triblock or higher copolymer; the core can comprise an styrene-isoprene pentablock or higher copolymer; or any combination thereof.

SUMM In another broad respect, this invention is an article of manufacture comprising a multifilament yarn, woven fabric or nonwoven web comprising at least one fiber made from a composition comprising 50% to 100% by weight of one or more block copolymers, wherein each block copolymer has at least two blocks produced from a vinyl aromatic monomer having up to 20 carbons and from a conjugated alkene monomer of formula: R.sub.2C.dbd.CR--CR.dbd.CR.sub.2 wherein each R, independently in each occurrence, is hydrogen or alkyl of one to four carbons or any two R form a ring, wherein the conjugated alkene monomer has at least five carbons and no more than 20 carbons. In this respect, the composition may comprise up to 50% of a processing

additive; the processing additive can be a fluorocarbon, a polyolefin, a mineral oil, a polysiloxane fluid, a tackifier, a wax, or combination thereof; the composition can include up to 5% of an additive to mitigate degradation of the fiber's properties; an additive to add color, luster, deluster, or filling; anti-block additive; a slip agent; or combination thereof; the block copolymer can be a triblock having two vinyl aromatic monomer unit blocks and one conjugated alkene monomer unit block; the block copolymer can be a pentablock having three vinyl aromatic monomer unit blocks and two conjugated alkene monomer unit blocks; the conjugated alkene monomer can be isoprene; at least one of the vinyl aromatic monomers can be styrene; the fibers can have a diameter less than 400 microns; the fiber can be in the form of a conjugate fiber; the fiber can be in form of a conjugate fiber which has a sheath core or tipped multilobal (e.g., trilobal) cross section; the fiber can be in the form of a conjugate fiber, which has a sheath core or tipped multilobal (e.g., trilobal) cross section, wherein the sheath or the tip component is a polyolefin; the core can comprise an SI triblock or pentablock or higher copolymer.

SUMM wherein the block copolymer has at least two blocks produced from a vinyl aromatic monomer and at least one block formed from a conjugated alkene monomer, and wherein the composition has an order/disorder transition (ODT) onset temperature of less than 280° C. and has a shear modulus, G', and loss modulus, G", neither of which monotonically increase with temperature in the range from the ODT, or 150° C. in the absence of an ODT, to 280° C. In this process, the composition can comprise up to 50% of a processing additive; the processing additive can be a fluorocarbon, a polyolefin, a mineral oil, a polysiloxane fluid, a tackifier, a wax, or combination thereof; the composition can include up to 5% of an additive to mitigate degradation of the fiber's properties, an additive to add color, luster, deluster, or filling, anti-block additive, a slip agent, or combination thereof; the block copolymer can be a triblock having two vinyl aromatic monomer unit blocks and one alkyl-substituted, conjugated alkene monomer unit block; the block copolymer can be a pentablock having three vinyl aromatic monomer unit blocks and two alkyl-substituted, conjugated alkene monomer unit blocks; the conjugated alkene monomer can be isoprene; the conjugated alkene monomer can be of formula R.sub.2C.dbd.CR--CR.dbd.CR.sub.2, wherein the monomer has at least five carbons, and wherein each R, independently in each occurrence, is hydrogen or alkyl of from one to four carbons or any two R may form a ring; at least one of the vinyl aromatic monomers can be styrene; the fibers can have a diameter less than 400 microns; the fibers can be in the form of a conjugate fiber; the fibers can be in the form of a conjugate fiber which has a sheath core or tipped multilobal (e.g., trilobal) cross section; the fibers can be in the form of a conjugate fiber, which has a sheath core or tipped multilobal (e.g., trilobal) cross section, wherein the sheath or the tip component is a polyolefin; the fibers comprise a core where the core comprises an styrene-isoprene-styrene triblock copolymer or a pentablock copolymer; the fiber can be a conjugate fiber, said conjugate fiber comprising the block copolymer and at least one polyolefin component, wherein said polyolefin component at least partially envelops the block copolymer; the fibers can be thermal point bonded at a temperature substantially below the normal bonding temperature of the polyolefin component, the polyolefin can comprise polyethylene, polypropylene, or combination thereof; the extruding can be at a temperature at least 10° C. above the ODT; the extruding can be

at a temperature at least 50° C. above the ODT; the heated fiber can be drawn at a velocity of 300 m/min or greater; the block copolymer can be a styrene-isoprene block copolymer having a number average molecular weight styrene content per block of the block copolymer in the range from about 6,000 to about 45,000 grams/mole and/or having a number average molecular weight isoprene content per block of the block copolymer in the range from about 20,000 to about 150,000 grams/mole, with the total weight of styrene used to make the block copolymer being 50% or less by weight.

SUMM wherein at least one block copolymer has at least two blocks produced from a vinyl aromatic monomer having up to 20 carbons and from a conjugated alkene monomer of formula: R.sub.2C.dbd.CR--CR.dbd.CR.sub.2 wherein each R, independently in each occurrence, is hydrogen, or alkyl of one to four carbons, or any two R join to form a ring, wherein the conjugated alkene monomer has at least five carbons and no more than 20 carbons. In this process, the composition can comprise up to 50% of a processing additive; the processing additive can be a fluorocarbon, a polyolefin, a mineral oil, a polysiloxane fluid, a tackifier, a wax, or combination thereof; the composition can include up to 5% of an additive to mitigate degradation of the fiber's properties, an additive to add color, luster, deluster, or filling, anti-block additive, a slip agent, or combination thereof; the block copolymer can be a triblock having two vinyl aromatic monomer unit blocks and one alkyl-substituted, conjugated alkene monomer unit block; the block copolymer can be a pentablock having three vinyl aromatic monomer unit blocks and two alkyl-substituted, conjugated alkene monomer unit blocks; the conjugated alkene monomer can be isoprene; at least one of the vinyl aromatic monomers can be styrene; the fibers can have a diameter less than 400 microns; the fibers can be in the form of a conjugate fiber; the fibers can be in the form of a conjugate fiber which has a sheath core or tipped multilobal (e.g., trilobal) cross section; the fibers can be in the form of a conjugate fiber, which has a sheath core or tipped multilobal (e.g., trilobal) cross section, wherein the sheath or the tip component is a polyolefin; the fibers can comprise a core where the core comprises an styrene-isoprene-styrene triblock or pentablock copolymer; the fiber can be a conjugate fiber, said conjugate fiber comprising the block copolymer and at least one polyolefin component, wherein said polyolefin component at least partially envelops the block copolymer; the fibers can be thermal point bonded at a temperature substantially below the normal bonding temperature of the polyolefin component; polyolefin may comprise polyethylene, polypropylene, or combination thereof; the extruding can be at a temperature at least 10° C. above the ODT; the fiber can be extruded at a temperature at least 50° C. above the ODT; the-heated fiber is drawn at a velocity of 300 m/min or greater; the block copolymer is a styrene-isoprene block copolymer having a number average molecular weight styrene content per block of the block copolymer in the range from about 6,000 to about 45,000 grams/mole and/or having a number average molecular weight isoprene content per block of the block copolymer in the range from about 20,000 to about 150,000 grams/mole, with the total weight of styrene used to make the block copolymer being 50% or less by weight; or any combination thereof.

DETD The vinyl aromatic monomer is typically a monomer of the formula: Ar--C(R.sup.1).dbd.C(R.sup.1).sub.2 wherein R.sup.1 is independently in

each occurrence hydrogen or alkyl or forms a ring with another R.sup.1, Ar is phenyl, halophenyl, alkylphenyl, alkylhalophenyl, naphthyl, pyridinyl, or anthracenyl, wherein any alkyl group contains 1 to 6 carbon atoms which may optionally be mono or multi-substituted with functional groups such as halo, nitro, amino, hydroxy, cyano, carbonyl and carboxyl. Typically the vinyl aromatic monomer has a carbon count less than 20 and a single vinyl group. In one embodiment, Ar is phenyl or alkyl phenyl, and typically is phenyl. Typical vinyl aromatic monomers include styrene (including conditions whereby syndiotactic polystyrene blocks are produced), alpha-methylstyrene, all isomers of vinyl toluene, especially para-vinyl toluene, all isomers of ethyl styrene, propyl styrene, butyl styrene, vinyl biphenyl, vinyl naphthalene, vinyl anthracene and mixtures thereof. The block copolymer can contain more than one specific polymerized vinyl aromatic monomer. In other words, the block copolymer can contain a pure polystyrene block and a pure poly-alpha-methylstyrene block or any block may be made up of mixed monomers.

DETD The conjugated alkene monomer can be any monomer having 2 or more conjugated double bonds and preferably possesses at least one alkyl substitution. Such monomers include for example 2-methyl-1,3-butadiene (isoprene), 2-methyl-1,3 pentadiene, and similar compounds, and mixtures thereof. The block copolymer can contain more than one specific polymerized conjugated alkene monomer. In other words, the block copolymer can contain a polymethylpentadiene block and a polyisoprene block or mixed block(s). In general, block copolymers contain long stretches of two or more monomeric units linked together. Suitable block copolymers typically have a weight ratio of conjugated alkene monomer unit block to vinyl aromatic monomer unit block of from about 50:50 to about 95:5, in one embodiment from about 55:45 to about 90:10, based on the total weight of the conjugated alkene monomer unit and vinyl aromatic monomer unit blocks.

DETD The block copolymer can also be branched, wherein polymer chains are attached at any point along the polymer backbone. In addition, blends of any of the aforementioned block copolymers can also be used as well as blends of the block copolymers with a minor component of either hydrogenated block copolymers or certain butadiene based SBCs or both (as long as the selection criteria given above are met for these blends). In other words, a hydrogenated SBS block copolymer or SBS block polymer can be blended with an SIS block copolymer at a level of less than 50%, preferably less than 30%, based on the total weight of all block copolymers. It should be noted here that in some productions of triblock copolymers, small amounts of residual diblock copolymers may be produced.

DETD All molecular weights, herein, are expressed in grams per mole, or Daltons. M.sub.w, as used throughout this specification, can be determined using gel permeation chromatography (GPC), which was the technique used in determining molecular weights in the examples. The molecular weight of the non-hydrogenated block polymer and properties obtained are dependent upon the molecular weight of each of the monomer unit blocks. For non-hydrogenated block polymers, molecular weights are determined by comparison to narrow polydispersity homopolymer standards corresponding to the different monomer units segments (for example, polystyrene and polyisoprene standards are used for SIS block copolymers) with adjustments based on the composition of the block copolymer. Also for example, for a triblock copolymer composed of styrene (S) and

isoprene (I), the copolymer molecular weight can be obtained by the following equation: ln(M.sub.c)=x ln(M.sub.a)+(1-x) ln(M.sub.b), where M.sub.c is the molecular weight of the copolymer, x is the weight fraction of S in the copolymer, M.sub.a is the apparent molecular weight based on the calibration for Styrene homopolymer and M.sub.b is the apparent molecular weight based on the calibration for homopolymer `b` (eg. polyisoprene). This method is described in detail by L. H. Tung, Journal of Applied Polymer Science, 24, 953 (1979). For simplicity, a single homopolymer standard (PS) was used here to reference the M.sub.w of the SBCs.

DETD The block polymer composition (that is the ratio of conjugated diene monomer unit blocks to vinyl aromatic monomer unit blocks) can be determined using proton NMR and a comparative integration technique such as that described by Santee, Chang and Morton in Journal of Polymer Science: Polymer Letter Edition, 11, 449 (1973). By way of example, a Varian Inova NMR unit set at 300 MHz for .sup.1H may be used and samples of the block polymer may be analyzed as 4% solutions (w/v) in CDCl.sub.3 (deuterochloroform).

DETD The tables below (Tables 1a, b) present the M.sub.w, % styrene, ODTs and capillary rheometry data for fiber tows prepared from various commercial SBCs. Also presented in the table are classifications of each SBC. The tables show that materials with ODTs below 280° C. may be processed at a variety of temperatures to yield fibers drawn at high velocities. Most of the materials presented in these examples are pure SBCs (some also contain residual diblock). It is anticipated that process aids will allow for lower temperature processing, faster fiber velocities, or different fiber performance, as can be seen in Example 5. The comparative example shows that butadiene-based soft blocks are difficult to spin at commercial rates. In Comparative Example 1 (see also FIG. 1B) a monotonic increase in the modulus is seen at 240° C., indicative of cross-linking in this SBC polymer. Many different classes of compounds have been investigated, as well as widely varied molecular weights (.about.60 to 150 kg/mole) and % styrene (11 to 45%). In fact both methods of producing SBCs (Sequential and Coupled) are represented in the table. In all Exemplary cases, where the fibers are drawn (not strands, which are typically 100-300 microns), the diameters of the fibers making up the tows were less than 100 microns. It is anticipated that spinning on commercial extrusion equipment and fiber spinning lines will be possible at no less than the rates presented in Table 1b, and probably faster.

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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	236.97	237.19

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-0.85	-0.85

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L2           380 SEA ABB=ON  PLU=ON  (SYNDIOTACTIC?(6A)(VINYL(1A) AROM? OR
                 STYREN?))(8A) BLOCK#
L3            78 SEA ABB=ON  PLU=ON  L1 AND L2
L4         72176 SEA ABB=ON  PLU=ON  (DIEN### OR BUTADIEN? OR ISOPREN?)(S)
                 BLOCK#
L5            77 SEA ABB=ON  PLU=ON  L3 AND L4
L6           355 SEA ABB=ON  PLU=ON  BLOCK#(S)(CIS####(1A)(CONTENT OR STRUCTURE#
                  OR LINKAGE# OR MICROSTRUCTURE#))
L7             0 SEA ABB=ON  PLU=ON  L5 AND L6
L8         11112 SEA ABB=ON  PLU=ON  BLOCK#(S)((BUTADIEN? OR ISOPREN?)(4A)
                 POLYMER#)
L9            53 SEA ABB=ON  PLU=ON  L5 AND L8
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                 D  L9 25-53 IBIB ABS
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     HIGHEST GRANTED PATENT NUMBER: US7669247
     HIGHEST APPLICATION PUBLICATION NUMBER: US20100050307
     CA INDEXING IS CURRENT THROUGH 25 Feb 2010 (20100225/UPCA)
     ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 25 Feb 2010 (20100225/PD)
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HIGHEST GRANTED PATENT NUMBER: US20090210342
HIGHEST APPLICATION PUBLICATION NUMBER: US20100049957
CA INDEXING IS CURRENT THROUGH 23 Feb 2010 (20100223/UPCA)
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 25 Feb 2010 (20100225/PD)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Dec 2009
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FULL ESTIMATED COST	0.42	237.61

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-0.85

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